

REPORT
OF
METROPOLITAN PARK COMMISSION

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REPORT

OF THE

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Board of Metropolitan Park

Commissioners.

JANUARY, 1899.

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Commonwealth of Massachusetts.

REPORT.

The Metropolitan Park Commission presents herewith its sixth annual report.

At the presentation of its last report the Board was preparing to continue the acquirement of the banks of Charles River, and was engaged in the investigation of available shore frontages and of certain proposed boulevards.

Towards the close of its last session the Legislature made an appropriation of \$1,000,000 as an addition to the Metropolitan Parks Loan, but further takings were delayed until the uncertainties of war were clearly passed. Acquirements of land and restrictions have been made or provided for however along Charles River as far as Hemlock Gorge, so that the banks for 19 miles, except where occupied by great manufacturing concerns, are in the control either of this Board or of some other public or quasi public body. A noble gift of about 700 acres of woods and beautiful intervalles south of Blue Hills and almost surrounding Ponkapog Pond has been accepted under the will of the late Henry L. Pierce. A field in Cambridge at the rear of "Elmwood," bought as a memorial to James Russell Lowell, has been transferred to the care of this Board, one-third of the purchase price having been paid by the Commonwealth and the remaining two-thirds by popular subscription, and will be available if desired as part of a parkway from Charles River to Fresh Pond. After careful investigation of the probable cost of the shore frontage at Squantum Head, Quincy and Winthrop, it has been deemed inadvisable to acquire additional lands at either place. A large part of the

land for a future extension to Paul's Bridge of the parkway through Stony Brook Reservation has been acquired, and land has also been acquired for a connection between the northerly end of Mystic Valley Parkway and Middlesex Fells. Revere Beach Driveway was completed early in the year to its southerly circle. This circle will hereafter be known as Charles Eliot Circle, and be marked in some suitable way to perpetuate a recollection of the work of Charles Eliot, the first landscape architect of the Board, in designing the development of this reservation. Fellsway has been practically completed and is open to public use. The subgrading of the Speedway along Charles River is nearly completed. Investigation is being made for acquirements along Mystic and Neponset rivers, and for an extension of Revere Beach Parkway through Chelsea, Everett and Medford to Fellsway. Investigations have been made which it is hoped will make it possible to begin within the coming year construction of the bridge over Saugus River, directed by chapter 547 of the Acts of 1898. No action to secure the consent of the United States government to the construction of the dam across Charles River, as authorized by chapter 531 of the Acts of 1898, has yet been thought advisable.

The only unpleasant event of the year was the burning of the roof and laundry of the bath-house at Revere Beach. When the building was erected the circumstances of a limited appropriation made completely fire-proof construction impossible, but the great water tanks in the roof and the slow-burning construction of the floors prevented severe loss. It has been thought necessary to provide a new fire-proof roof, and it is hoped that funds will be provided this year for the expense thus incurred and for a necessary increase of dressing rooms and for a separate building for laundry, administration and police. All the reservations and the parkways now open are in better condition and the forces in them are better organized than in any previous year. The Commission has taken new offices at 14 Beacon Street, which provide better accommodations in a fire-proof building near the State House at a rent proportionately

lower than that formerly paid. As this is a Metropolitan Commission, the Commonwealth does not provide offices for it in the State buildings.

The purpose of the Board at this time, however, is not so much to discuss the details of the past year's work, which will be found in the admirable accompanying reports, as to review the work of the full five years which have now passed, and to give some consideration to that of the future.

The Metropolitan Park System was a natural outgrowth of the desire in more than one locality to save from increasing population some beautiful spot which for generations had been so generally resorted to as to seem public property. This desire took active form in the agitation for preserving Middlesex Fells, and led to the passage of chapter 342 of the Acts of 1892, and the appointment of a special Commission to investigate and report on the advisability of laying out ample open spaces for the use of the public in the towns and cities in the vicinity of Boston. After personal examination of all the more important available open spaces near Boston, and conferences with citizens and public bodies of the various municipalities, this preliminary Commission submitted to the Legislature of 1893 its own brief report and accompanying reports of its Secretary and Landscape Architect, together with a bill calculated to provide for carrying out its immediate recommendations. The bill was enacted in practically the form proposed, as Metropolitan Parks Act, chapter 407 of the Acts of 1893. Additional general appropriations have been made to enable the Commission to advance along the lines indicated by those first reports and the accompanying plan. A comparison of that plan with the one submitted this year by the Landscape Architects shows how little change has been found advisable.

That the Commonwealth had adopted the policy outlined in these preliminary reports and committed itself to the far-reaching consequences of this policy was even more apparent at the close of the next legislative session of 1894. Indeed, it may be said that during the five full years just passed there has never been occasion to force public sentiment, and that the only anxiety felt by the Commission has been lest

it should not be so fully prepared in the details of its plans as to avoid sporadic schemes and unnecessary petitions for specific legislation. Fortunately the permanent Commission was in perfect accord with the preliminary Board, and was assisted by Charles Eliot, who had mapped out the definite scheme of acquirements in his previous report; so that it was, in effect, a continuation of the preliminary Commission, actuated by the same purpose and ready for prompt action. Within nine months all the woods reservations were taken except Hemlock Gorge, which is rather a part of Charles River. Of these reservations, that of Stony Brook was taken more for its value as a part of a future parkway in extension of the Boston Park System from Arnold Arboretum to Great Blue Hill than as a reservation. The lands north of Washington Street, charged to West Roxbury Parkway, were transferred to the city of Boston, under agreement that they should be cared for and developed in connection with other lands for the same purpose then taken by its Park Commission. During the winter of 1894 a Joint Board of the State Board of Health and of this Board by direction of the previous Legislature reported a plan for reclaiming Charles River to a fit condition for its location in the midst of a great city. The larger recommendations of this report were referred to another State Board for re-examination as to certain conditions with which alone they could be supposed to be especially familiar, and an appropriation of \$300,000 was at once made for the acquirement of lands below Waltham line. An appropriation of \$500,000 for acquirements at Revere Beach was also made, which the Legislature of 1895, on further report prior to any expenditure by the Board, increased by a still further appropriation of \$500,000.

At the outset it was feared that the general public idea of parks, as including formal roads and paths, such as those of Central Park in New York and the Boston Park System generally, might cause a demand for road building before the lands for the reservations were secured. While recognizing, therefore, that its plans must be based upon consideration of ultimate development, including road building,

the Commission carefully avoided and tried to turn attention from the construction of such roads; and when the Legislature of 1894, during an effort to provide work for the peculiarly large numbers of men then out of employment, asked the Board to find work for them, and offered to appropriate \$500,000 for that purpose, a separate act and appropriation seemed the safest way to keep this branch of work distinct from that of the acquirement of the reservations. Out of these circumstances came chapter 288 of the Acts of 1894, known as the Boulevard Act, and the loans charged as Metropolitan Parks Loan, Series II. All subsequent appropriations under this act, as under the Parks Act, have been of a general nature and as additions to this original loan, although they have been invariably made upon the understanding that the Board would give careful consideration to the purpose indicated at the legislative hearings.

Of other legislation, one act requires special mention. The Park Acts provided that funds advanced first by the Commonwealth should be repaid by the cities and towns of the district through annual payments, according to a table of apportionment prepared for each period of five years by a special commission appointed by the Supreme Court. One such apportionment had been made; but, being based on an estimate of specific benefits, the cities and towns represented that this Commission was proceeding so cautiously that no understanding of the benefits coming to each could be had at that time, and so persuaded the Legislature to enact chapter 550 of the Acts of 1896. This act, in brief, directed the Commission to complete its work before 1900, postponed all apportionment of payments by the district until that year, and provided that all expenses and interest and sinking fund requirements until that time should be paid out of the loans already authorized. The immediate effect of this act was to direct the Commission to hasten its work, and at the same time to hold up its hands by withdrawing \$1,000,000 from its available funds. The latter handicap was removed by additional legislation and an appropriation the next year; but it left the burden of increased expense

to the tax payers and an apparent increase of \$1,000,000 in the cost of the work done by this Board.

The salient points of this review may be briefly re-stated as follows: The general outline of the work which this Board was created to perform was stated clearly in the report of the preliminary Commission, and has been carefully followed to this time. Its legal rights and duties are found in chapter 407 of the Acts of 1893 and chapter 288 of the Acts of 1894, and various minor acts in amendment, and are especially affected by chapter 550 of the Acts of 1896, which limits work to the coming year. Subsequent legislation has directed work, however, which cannot be so soon completed; and of course the care and maintenance of the reservations and parkways now provided, and the settlement of claims, must continue. Lest the objection to the previous apportionment be again raised, it is clearly important that whatever of the scheme for reservations and of that for boulevards is incomplete should be provided for by the coming Legislature, or else be definitely postponed or dismissed from consideration. To this end a complete understanding of what remains to be done to complete the system and a brief comparison of these schemes and of the present status of the work is essential.

The scheme for reservations provided for reservations, first, of forest; second, of rivers, brooks and ponds; and third, of seashore and islands.

Of these, the forest reservations have all been acquired and developed as far as is at present thought wise, except in the direction of forestry, or, more properly, forest culture. No other reservation has been contemplated by the Board, although the suggested care of Lynn Woods of 2,000 acres would have been accepted if the city government of Lynn had approved.

Of the second class, the basin of Charles River has been secured except for a short distance between Newton Upper Falls and Dedham, and substantial takings along Mystic River and Neponset River are in contemplation. The only pond or lake frontage yet secured is along the easterly side of Mystic Lake, but the scenery of the western and northern

shores remains unprotected. Arlington has made an appropriation for the purpose of securing the banks of Spy Pond upon conditions of co-operation by this Board which deserve careful consideration. On the whole, it may be said, however, that, as ponds are generally within a single municipality, this Board has looked upon them as local problems not to be considered except where slight co-operation would encourage their protection by local effort. The only development thus far made within this class of reservations has been the building of Mystic Valley Drive and the Speedway, and in the simple work about Hemlock Gorge on Charles River. Further improvements to facilitate boating and picnicking along the rivers and to regulate the withdrawal of water may be made; but it is evident, in the language of the first report of this Commission, that “in cases of this class the expense would necessarily be large as well as difficult to estimate in advance, and progress correspondingly slow.”

Of the third class, Revere Beach and King's Beach are the only acquisitions. The latter, while especially valuable to Lynn and Swampscott, would not perhaps have been considered as of metropolitan importance but for the offer of Swampscott to acquire the neighboring Blaney Beach and care for both. Papers have been executed transferring this beach to the care of the Swampscott Park Board.

Revere Beach is unique. Its accessibility and safety and the beauty of its crescent shape and of the view from it have never left any doubt as to the wisdom of acquiring it in advance of any other shore reservations. Other acquisitions have been carefully investigated, but the expense involved and the scattering of expenditure have made further takings seem inadvisable. An examination of the report of the Secretary will show the enormous use of Revere Beach during the past year, and that, in spite of an increase of charges at the bath-house, the patronage increased beyond its capacity. The additional development now required at this reservation is an enlargement of the bath-house, a new laundry and police station, and an extension of the roadway to meet the bridge over Saugus River to Lynn, which was specifically authorized by chapter 547 of the Acts of 1898.

In brief, acquirements for the reservations have so far advanced that further acquirements ought now to be decided upon only after careful investigation of cost and consideration of the expense already incurred. The Board therefore respectfully suggests that it is worthy of consideration by the Legislature whether such further acquirements for reservations may not wisely be postponed until the tax payers of the district have begun to balance the benefits against the cost. No further developments are suggested at this time except forest culture and the necessary ones at Revere Beach. Other suggestions will no doubt be made from time to time on carefully matured plans, and may be dealt with when made. In general, the reservations are secured and are sufficiently developed to give the present generation a reasonable use of them without hampering by hasty work the maturing of plans for their more permanent development.

The work under the Boulevard Act, chapter 288 of the Acts of 1894, has been a matter of more difference of opinion and uncertainty than that under the original Park Act. This is no surprise in view of the hesitation early exhibited by the Commission in entering upon this class of work. The preliminary Commission realized the possibility of such work, but feared that it would tend toward sporadic schemes and prevent the acquirement of reservations. Nevertheless, without making recommendations of its own, that Board deemed it wise to submit without excision the scheme of its Secretary and Landscape Architect. In the first year of its work the present Board was confronted with the problem when determining the boundaries of Stony Brook Reservation under the original Park Act and almost at the same time by the passage of the Boulevard Act. Realizing the importance of a definite plan, it immediately began a series of careful investigations, in order to separate all such reservations as might be classed as boulevards or parkways, and add such others as might seem necessary to a well rounded system. Careful attention was paid to considerations of simplicity and economy, and no attempt was made to penetrate the thickly settled portions of the district except where

waste or neglected lands would make a reasonable first cost. The determination of routes and acquirement of lands was regarded as of first importance. Only one route not then included has been since suggested; and that, after adverse report by this Board, has not been revived.

These investigations showed that under the conditions above outlined there were on the south side of Boston two well-defined opportunities for parkways or boulevards to the Blue Hills, and one south-east to Quincy shore and thence by Furnace Brook to the Blue Hills. The banks of the Charles River would form a route for an ample parkway to the west and south. On the north of Boston there were also two routes toward Middlesex Fells, and one to Revere Beach and thence by way of Lynn Woods to Middlesex Fells. The land for such of these as have been deemed advisable has been largely acquired. The route by Quincy shore has been necessarily dismissed from consideration by the decision, as above stated, not to acquire additional lands along that shore. The route to Lynn Woods and thence to the Fells is to be considered in a special report. Fellsway is practically completed and opened to the public. The land for Blue Hills Parkway is secured, and a large part of the construction provided for. The land for the westerly parkway from the Arboretum to Great Blue Hill is provided as far as Paul's Bridge, and there remains only the land beside the present beautiful Brush Hill Road to be acquired. The land for the westerly parkway to the Fells remains to be acquired for a short distance between Charles River and Fresh Pond, and then to the Mystic Valley Parkway. Co-operation to the extent of \$45,000 is offered by the town of Arlington if this route includes Spy Pond.

In brief, then, only the land for the rest of each of these westerly routes remains to be acquired. These are all described in detail by the Landscape Architects. New bridges to replace the ones at Mattapan and at Wellington, to which the Blue Hills Parkway and Fellsway run, are very desirable; but, as both are used for heavy traffic, it seems proper that the cities and towns responsible for the present bridges should provide them.

To a full understanding of this report the following statistics are of value : —

Total appropriations and receipts under Park Acts, exclusive of appropriation necessitated by postponement of apportionment,	\$4,857,007 99
Total appropriation and receipts under Boulevard Act, exclusive of appropriation required by postponement of apportionment,	2,106,099 00
Total appropriation and receipts under both acts, as above,	6,963,106 99
Total appropriations and receipts, including that necessitated by postponement of apportionment,	7,963,106 99

From the Secretary's report and detailed financial statement it appears that an unexpended balance remains in the hands of the Treasurer from each of the loans. This is an apparent balance, however, and may not be relied upon for any further expenditure than payment for lands and construction already decided upon and running expenses for the year. It is not possible even with certainty to say that the cost of lands already acquired may not by jury verdicts be made to exceed present estimates. This is, however, less likely now than at first, because the lands acquired recently have more definite and known values than in the case of early takings, and because the Commission is now enabled by law to secure options before making takings. In the case of lands not covered by options awards are now made on expert advice as to market values, and the experience with recent awards is that they are generally accepted without suit. This is particularly so in the case of takings under the Boulevard Act, for which no claim has yet been pressed for trial, and only five claims are in suit.

Against the total expense above stated is to be set the total acquirements or assets which may now be regarded as held by the Commonwealth to secure its bond issues. Under the Park Acts there are 7,904.81 acres, of which 555.56 are in the form of frontage along 19 miles of Charles River, and 66.19 at Revere Beach. To this will have to be added next year the acquirements on Mystic and Neponset rivers. There should also be some addition or allowance made for the saving to the Metropolitan Water District for the lands

used for reservoir and pipe purposes in Middlesex Fells. Under the Boulevard Act, land for 10.31 miles of road has already been acquired, without including West Roxbury Parkway, which is charged to the park loan, and 7 miles have been constructed. Land for the Revere Beach Parkway, 4.5 miles, and the construction of Blue Hills Parkway, 1.16 miles, to Canton Avenue and the bridge across Saugus River, are also provided for. To all of these are to be added various boundary roads and entrances to the reservations; houses and other necessary buildings, including the bath-house at Revere Beach, which is self-supporting; tools and implements; and the town roads, 9 miles, and woods roads, 30 miles, within the reservations which have been already built or put in good condition.

It is evident from this review that the duties of this Board are to be quite different in the future from what they were when it started upon its work five years ago. Then everything was before it; the acquirements were to be made, and development and construction and use by the public and care and management were dismissed from thought, as in spring one dismisses the thought of a winter beyond the summer. Now acquirements are either largely made or almost as definitely outlined in the minds of the public as of the Commission. Little more is necessary for the consideration of any not now made than to know and understand the statistics of cost. And yet, if no further acquirements are made, there remains as much work to be done in the next five years as has been done in the past, with the difference that it is to be even more a work of details, calling for study, discussion, agreement, business management,—in a word, for the solution of practical problems in the light and love of Nature and her ways. The Commonwealth is now trustee for the Metropolitan Parks District of property which has cost about \$8,000,000. This Commission is hereafter to be its agent, not alone to hold it but also to manage it, for the double purpose of making it of use to the present generation and of passing it on with gradual and steady improvement. In this property are woods reservations so dainty that thoughtless throngs if not regulated will trample

their beauty into squalor; and larger woods reservations already so much used that they must become great urban parks; and the Blue Hills, likely to be for many years far from dense population, so that, if a beginning is now made, a mighty forest may grow up in them before they are much used. Each has its characteristics and great possibilities for the refreshment of generations present and to come. If the Commonwealth and this Board are to do their full duty as trustees, none of these characteristics or possibilities will be overlooked; but the problem is difficult, and may easily be neglected in a mere "*laissez faire*" spirit of apparent adoration of Nature.

With the shore reservations and the boulevards different problems present themselves. A strong mixture of idealism, faith in the future and practical business sense is called for in their location, and in the designing and construction of their development. Afterwards will come the daily and yearly administration, care and maintenance, — cold business problems ever present. It can be well organized; but any organization must be watched when great crowds have to be provided for and protected, a police force maintained, streets lighted and watered, and even a bath-house with 1,000 and perhaps 2,000 rooms or more operated. On the rivers the problem is to be a mixed one, of the care of trees and shrubbery, regulation of the height and use of the water, clearing the stream of obstructions, care of roads and paths as built, already including the Speedway, and such bridges, carries, dams and picnic grounds as may be from time to time provided, and perhaps a river police. For all of these the present excellent organization may be enlarged, but there will yet remain a supervision and watchful care to be exercised by the Commission, which must itself finally bear the responsibility. These facts are stated with no intention to magnify or to glorify the work of the Commission, but merely in order to set plainly before the public the nature of these future duties, in order that it may be understood how constantly exacting the care and maintenance of the reservations and boulevards must always be.

It is now the beginning of the last year in which the ad-

ministration and annual expenses of this work may be adjusted prior to their apportionment. In the consideration already given to these problems the Commission has been forced to the conclusion that its future duties are to be such that they should be placed upon a permanent business basis, to be performed hereafter by those who will be bound to them as men are to their business. Thus far no member of the Commission has ever received any salary or compensation for his services, and it is doubtful if the work that has been done could under all the circumstances have been done so well any other way. Every one who has been connected with the Commission from its establishment has been an enthusiast in its work, proud of his part in it, and better paid in the satisfaction of its accomplishment than he could have been in any other way. But, looking to the future, there is a well-grounded apprehension that with the changes that have actually come the work cannot be satisfactorily carried on much longer in the same way. The Commission, for obvious reasons, hesitates to judge or to make recommendations in what may seem to involve the personal interests of its members, but its duty clearly requires it to ask this Legislature to consider the matter before actual necessity compels, and to decide whether the interest of the Commonwealth and the district will not be best served by such change in the existing laws as will either provide for a Commission in charge of the work now carried on by this Board, whose members shall receive adequate salaries, or else authorize the present Board to pay such salaries to any of its members who may be required to devote unusual time to necessary special duties.

The usual accompanying reports of the Secretary, Landscape Architects and Engineer are transmitted herewith.

All of which is respectfully submitted.

WILLIAM B. DE LAS CASAS.
EDWIN B. HASKELL.
FORREST C. MANCHESTER.
EDWIN U. CURTIS.

REPORT OF THE SECRETARY.

Mr. WILLIAM B. DE LAS CASAS,

Chairman Metropolitan Park Commission.

SIR:—I herewith present my report for the year ending Dec. 1, 1898. For convenience I have made the following sub-divisions: 1. Acquirement of Lands. 2. Administration. 3. Finances.

1. ACQUIREMENT OF LANDS.

Charles River Reservation.

At the date of the last report plans and papers were in preparation for making takings along the banks of the Charles River from Watertown to Newton Upper Falls. The takings previously made extended from the Brookline Gas Works at Cambridge Street Bridge, just above Cottage Farms, to Galen Street Bridge just below the great dam at Watertown. In January of this year the taking of the section from Galen Street to Farwell Street in Waltham was recorded. The taking of the next section, which extends from Farwell Street to Moody Street in Waltham, was somewhat delayed, owing to complications arising from the existence of large manufacturing plants in this portion of the river which it was the intention of the Commission not to disturb. After considerable investigation and several conferences satisfactory lines were determined upon, and the taking was made and recorded in August. The next section extended from Moody Street in Waltham to Auburndale Park in Newton, and was completed in March. The section from Auburndale Park to Weston Bridge at the end of Commonwealth Avenue in Newton was acquired in June. The Riverside section, extending from Weston Bridge to

the railroad bridge at Newton Lower Falls, lies in two counties. The westerly portion was taken in June and the lands in Newton and Weston in August. The last section extends from Newton Lower Falls to the Hemlock Gorge Reservation at Newton Upper Falls, and this taking was made in July. The boundaries of these acquirements and the reasons governing their selection were quite fully set forth in the report of the Landscape Architects printed in the last report of this Commission.

On the lower reaches of the river another important acquisition has been made. From Craigie's Bridge on the left bank of the river the city of Cambridge holds control of the river bank to the lands of the Cambridge Hospital near Mount Auburn, where the takings of this Commission begin and continue with but few breaks to Newton Upper Falls, a distance of 19 miles. On the right bank on the Boston side, between Craigie's and West Boston bridges, is Charlesbank, a playground of the Boston Park System. From the West Boston Bridge to Harvard Bridge, largely in the rear of Beacon Street, is an opportunity for development the character and details of which have been under discussion for several years. The situation is one, however, which the Landscape Architects have stated does not demand immediate attention, as no development of the property adjoining is likely to occur which will interfere with the proper solution of the problem presented for the improvement of the shore front. From Harvard Bridge to the bridge at Cottage Farms the private lands and streets have been laid out along the harbor line in such manner that the proper treatment of this portion of the shore is assured. But between Cottage Farms and the Brookline Gas Company's works on Cambridge Street, where the former takings of this Commission begin is a tract of land partly owned by the estate of Eben D. Jordan, and the remainder owned and occupied by the Boston & Albany Railroad for freight purposes. This important gap in the holdings of the various public boards controlling the right bank of the river has been removed by arrangements recently arrived at between the Commission and these private owners, whereby a narrow strip of the

fore shore and the adjacent flats will be acquired as a part of the Charles River Reservation. This will practically place the right bank of the river in public control for the same distance that the left bank has already been secured.

In making the takings along the Charles River omissions were made in several places of property of semi-public corporations and residential property occupied by its owners, because, in the opinion of the Commission, the absolute ownership of these portions of the banks of the river was not necessary for the scheme of improvement. It was thought to be sufficient in such places to acquire some restrictions and rights in the banks, which, without giving the public access thereto, would prevent the destruction of their attractive features by the cutting of trees or the erection of buildings, and permit the Commission to improve them by grading and planting. The powers of the Commission to make agreements of this nature with owners, and, where it is not possible to do so, to proceed adversely, were defined in an act passed by the last Legislature; and, in accordance therewith, plans have been prepared for carrying out this portion of the scheme of improvement.

Two slight changes of line have been made in the Charles River Reservation; one in Cambridge, at Gerry's Landing, where, by a sale and exchange of land between the Commonwealth and the Cambridge Homes for Aged People and the Harvard Infirmary, these two institutions are given a frontage on the proposed entrance road into the reservation at this point; the other on North Harvard Street, in Brighton, adjoins Soldier's Field (the athletic grounds of Harvard College), where a strip has been contributed to the widening of this street by the city of Boston.

Lowell Memorial Park.

In the rear of Elmwood, the homestead of James Russell Lowell, in Cambridge, is a large field containing some fine specimens of trees. This field was a part of the Elmwood estate, and it was the desire of many people, who had formed an association for carrying out their purpose, that this tract of land should be secured for park purposes and dedicated

as a memorial of Mr. Lowell. The committee urged upon the Commission the propriety of this tract of land being made a part of the Metropolitan Park System, not only on account of its proximity to the Charles River Reservation, but also because, should a connection hereafter be made between the Charles River Reservation and Fresh Pond, as has been suggested, this parcel of land would be a link in the chain of lands required for a feasible route. The Commission agreed to pay one-third of the cost of the land, provided that the remaining two-thirds should be raised within a limited period. The committee in charge of the subscription were successful, and in July of this year the purchase was made. The tract contains 140,000 feet of land, and the Commission contributed \$12,000 towards the cost. The title was conveyed to the Commonwealth, to be held by this Commission. The conditions imposed by the association are that the premises are to be held in trust as a part of the Metropolitan Park System, to be forever kept open and unbuilt upon, and used for park purposes only, with the prime intention of creating a memorial to James Russell Lowell; and to that end are to be kept in the condition in which they were known to him, so far as is consistent with the public uses for which the Board of Metropolitan Park Commissioners has to provide; and the Lowell Memorial Committee, representing the subscribers to the fund for the purchase of the premises, are to be allowed to place thereon a monument to Mr. Lowell in a location approved by the Board.

Blue Hills Reservation.

A notable addition has been made to the Blue Hills Reservation by the acceptance of the devise of Henry L. Pierce of his estate at Ponkapog Village. The estate adjoins the reservation just south of Great Blue Hill, and is situated partly in Canton and partly in Randolph. What is known as the homestead, with 157 acres of land, is subject to life estates. The remainder, consisting of 540 acres of woodland and meadow land, and almost encircling Ponkapog Pond, has passed into the control of the Commission. Mr. Pierce formed his generous purpose of dedicating this land to pub-

lie use soon after the Metropolitan Park Commission was created, and his will and the codicils thereto show that he had constantly kept this purpose in mind.

The only other addition to the Blue Hills Reservation has been the taking of that portion of Hillside Street in Milton lying within the boundaries of the reservation. This portion of the street is little used except in connection with the reservation, and its boundaries were extremely uncertain. It seemed to be essentially a part of the reservation, and the Commission, at the request of the town, has now made it so in fact. The lines of the Pine Tree Brook entrance in Milton have been slightly changed, to conform with the plans of the county commissioners of Norfolk for widening Randolph Avenue.

Middlesex Fells Reservation.

In Winchester, at the request of the Fish Commission, a small parcel of land, of about 3,210 feet, was acquired as an addition to the lot upon which the State hatchery stands. This has enabled the Fish Commission to grade the lot around the building to conform with the adjoining lands. About 2,080 feet of land were taken at the head of Mt. Vernon Street, in Winchester, to adjust boundary lines. About 1,036 feet of land in Melrose were abandoned, to make the boundary of the reservation coincide with certain property lines, and, for a similar reason, 80,150 feet were abandoned in Winchester.

The following is the present area of the reservations : —

Reservations of the Metropolitan Park System.

	Area in Acres.
Blue Hills,	4,777.84
Middlesex Fells,*	1,802.43
Stony Brook,	460.64
Charles River,	555.26
Beaver Brook,	58.08
Hemlock Gorge,.	24.46
Revere Beach,	66.19
King's Beach,	3.91
West Roxbury Parkway,	156.00
	<hr/> 7,904.81

* Exclusive of 1,200 acres of holdings of water boards, under care and control of Metropolitan Park Commission.

Neponset River Parkway.

This parkway is designed to connect the Blue Hills with the Stony Brook Reservation, and thence by the West Roxbury Parkway with the Boston Park System at the Arnold Arboretum. The first section of this connection has been acquired this year, and extends from Mother Brook at the southerly end of the Stony Brook Reservation to Hyde Park Avenue in Readville, a part of Hyde Park. From this point the parkway must ultimately be carried over the Providence and Midland divisions of the New York, New Haven & Hartford Railroad to the banks of the Neponset River. Until such construction is required, provision exists for connection with the Blue Hills over existing streets by way of the Readville station, where grade crossings of the railroad have already been eliminated. Lands for the second section of the parkway up the banks of the Neponset River to Paul's Bridge were acquired last year, and studies for the last section, from Paul's Bridge to the Blue Hills, are in preparation.

Blue Hills Parkway.

In connection with the widening of Brook Road by the town of Milton, a small taking and abandonment has been made to adjust the entrance lines of the town road to the lines of the Blue Hills Parkway.

Mystic Valley Parkway.

The town of Winchester and the city of Boston purchased lands near the Winchester station when the parkway was laid out, under an agreement with the Commission that this land should be subsequently transferred to the control of this Board. These transfers have been made this year by the town, and by the Metropolitan Water Board, which has now succeeded to the city of Boston as the owner of the Mystic Water System. As this system, which consists in part of the Abbajona River, the Upper Mystic Lakes and adjacent lands, is not in present use for water purposes, the Water Board has made arrangements with this Commission by which these lands and waters will, for the present, be

used as a part of the Mystic Valley Parkway. This has the practical effect of adding materially to the area of this parkway.

A small abandonment has been made at the Medford end of the parkway of land taken from the Brooks Real Estate Trust.

Middlesex Fells Parkway.

This parkway as laid out ended at Mystic Avenue at the northerly end of Broadway Park in Somerville. On the easterly and westerly sides of the park are streets respectively known as Winthrop Street and Chauncy Street. The city of Somerville, through its committee on public grounds, suggested to the Commission that these two streets should be incorporated as a part of the parkway, so that its starting point should be at Broadway, which is a trunk highway reaching across Somerville and furnishing connections on the east with Boston through Charlestown and on the west with Cambridge and other towns and cities. The proposition of Somerville was accepted, and, in co-operation with the city, these approaching streets will be put in the same condition as the remainder of the parkway, and the park itself so treated as to form a fitting entrance to this great northern parkway of the district.

In several places where restrictions could not be arranged for on this parkway they have been established by takings; and in two cases small parcels of land lying between the construction line of the parkway and the line of taking (which followed property or street lines) have been conveyed to the abutting owners, as one of the considerations in effecting settlement for lands taken.

The following is a list of the parkways, and their lengths:—

Parkways of the Metropolitan Park System.

	Length in Miles.
Blue Hills Parkway,	2.25
Middlesex Fells Parkway,	4.32
Mystic Valley Parkway,	2.40
Revere Beach Parkway, . . . . .	.62
Neponset River Parkway, . . . . .	.72
	<hr/>
	10.31



MIDDLESEX FELLS PARKWAY, FELLSWAY WEST.

THE HELIOTYPE PRINTING CO., BOSTON

2. ADMINISTRATION.

The method of administration remains the same as heretofore, the work being divided among the following departments: Landscape Architects (advisory), Engineering, Law, Claims and Superintendence. The Secretary is the executive officer of the Commission, and, as such, receives his directions from the Board, and sees that they are carried out by the proper departments, who report in turn to him. The general offices of the Commission have been recently removed from the Ames Building on Court Street to the Congregational House, 14 Beacon Street, a new building which has just been completed, and built with all the modern provisions for protection against fire. Ample quarters for the Engineering Department, previously located in a building on Exchange Street, have been secured on the same floor, thus providing for the valuable plans and data of this department much better protection against fire than existed in its former location. The advantage of having this important department in rooms adjoining those of the general offices of the Commission is evident. Additional space was also obtained for the Law and Claim departments, in connection with the general offices of the Commission. Another advantage gained by the change is the nearness of the new quarters to the State House, where are located the offices of the other State departments with which the work of this Commission is connected. The new offices being somewhat removed from the business centre, the Commission was enabled to secure more ample quarters for a slight increase of the combined rentals before paid. One new official has been created this year, a Supervisor of Construction, whose duties are to personally inspect and report upon all works of construction in progress in any part of the reservations or parkways. This office is held by Mr. Abraham L. Richards, formerly a member of the Commission. The duties of the Secretary require his presence at the office of the Commission for the greater part of the day, and the area of the Metropolitan Parks District is so large and the distances between the various reservations and parkways so great that it is

impossible for him to maintain oversight of the details of the work of construction. Mr. Richards' ample knowledge of the work of the Commission and his considerable experience in work of the nature carried on by the Commission has made his services of much value during the year.

Landscape Architects.

The death of Charles Eliot and the retirement from active business of Frederick Law Olmsted have caused changes in the firm of Olmsted, Olmsted & Eliot, the consulting Landscape Architects hitherto of the Commission. The remaining member of the firm, Mr. John L. Olmsted, has associated with him his brother, Mr. Frederick Law Olmsted, Jr., and this firm, under the name of Olmsted Brothers, continues to advise the Board in matters of landscape work. During the past year they have been called upon to report to the Board upon a number of important matters which the directions of the Legislature and the nearness of the time fixed for the completion of the takings of the Commission make urgent. They have also been called upon to advise on plans previously adopted and now being carried out. Their report is printed as an Appendix to this report, and will be found to be of especial interest, as expressing their opinion of what remains to be done to complete the Metropolitan Park System.

Engineering Department.

The plans prepared during the past year by this department to accompany takings or for purposes of study are important in character, and cover a large area. Topographical plans of the Charles River have been completed from the Essex Street Bridge at Cottage Farms to Mother Brook in Dedham. The banks of the Neponset River have been surveyed from Neponset station to Green Lodge Street in Canton, and the valley of Mother Brook from the Charles River to where it flows into the Neponset in Hyde Park. The topographical survey of the Mystic River has been extended from the Mystic Valley Parkway in West Medford down to Wellington Bridge in Somerville. Plans have been made of the shores at Squantum and along Quincy Bay to Merry-

mount Park, and thence up the valley of Furnace Brook to the Blue Hills Reservation. Topographical surveys have been made for the study of the connecting parkway between the Blue Hills and Stony Brook reservations. Similar plans have been prepared of the territory between the Charles River and Fresh Pond in Cambridge, and between the Mystic Valley Parkway and Spy Pond in Arlington. Taking plans have been made for the extension of the Mystic Valley Parkway from its northern end in Winchester to the Middlesex Fells. Maps have been prepared of the country between the Fells and the Lynn Woods and the Lynn Woods and the Point of Pines in the Revere Beach Reservation, to aid the Commission in considering feasible connections between these reservations upon which the Legislature has ordered a report to be made. Material has also been gathered for preparation of plans for the connection between Lynn and Revere Beach by a bridge across the Saugus River, for which an appropriation was made by the Legislature of last year. Plans have also been begun for the extension of the Revere Beach Parkway from its present ending at Winthrop Avenue in Revere to the Middlesex Fells Parkway in Medford. Plans were also prepared for a possible acquirement of the shore between the northern end of Revere Beach and Great Head at Winthrop. In short, sufficient material has been gathered together for the consideration of all the connections referred to in the last report of the Landscape Architects as necessary to complete the system, and shown on the map accompanying their report. In addition, this department has prepared a large number of plans required for purposes of construction and for the use of other departments, the details of which appear in the Engineer's report, transmitted herewith.

Several large works of construction in the charge of the Engineer have been completed this year. The Middlesex Fells Parkway has been completed, and now furnishes a direct communication from Broadway Park in Somerville to the east and west sections of the Fells. A section of the Blue Hills Parkway, from Blue Hill Avenue at Mattapan to Brook Road in Milton, is finished, and construction plans

prepared for continuing the work to Canton Avenue. The southerly end of the Revere Beach Driveway, ending in Eliot Circle, was finished in the spring, and a short section of the Revere Beach Parkway, sufficient to make a connection with the recently built State highway at Beachmont, is being surfaced. This will make an agreeable means of access to Revere Beach from East Boston. Turtle Pond Road in the Stony Brook Reservation from Washington Street, West Roxbury, to Glenwood Avenue, Hyde Park, was accepted September 1. It is the only carriage road through the reservation, and is about two miles in length. It traverses the heart of the Stony Brook Woods, and for the first time makes it possible to inspect this reservation in a safe and agreeable manner. This road will ultimately become a link in the chain of park roads which will extend from the Public Garden in Boston to Great Blue Hill, and thence through the Blue Hills to Quincy, a distance of 19 miles.

The Engineer reports that work on the Speedway section of the Charles River Reservation, begun last January, has progressed satisfactorily during the year. The present contracts include the building of the boundary road and Speedway to sub-grade, drainage and tide-gate work, the building of a dike along the river bank and the treatment of the shore. The boundary road extends from the junction of Western Avenue and Market Street in Brighton down the river and around Longfellow Meadows to "Soldiers' Field", the athletic grounds of Harvard College on North Harvard Street, which, after crossing the river, becomes Boylston Street in Cambridge and leads to Harvard Square. The Speedway proper begins at the Market Street end and parallels the boundary road for a distance which will give a practically straightaway course for one mile. It is to be used only in one direction, and the return will be by the boundary road. As the Speedway is built at marsh level, a dike is necessary to prevent its overflow by extreme tides, as well as to prevent the flooding of the adjacent meadows. The shore outside the dike is being treated to correspond with the improvements made by the city of Cambridge of the opposite bank. It is hoped to have the Speedway completed for use by the fall of next year.

In the other reservations little constructive work has been done, and such as has been carried on under the direction of the Engineer is described in his report.

Law Department.

The legal department of this Commission is by law in charge of the Attorney-General of the Commonwealth. In June of this year Assistant Attorney-General George C. Travis, who had for some time had direct charge of the legal matters of this Commission, resigned. During Mr. Travis' connection with the work of the Commission a considerable number of important cases were disposed of with results favorable to the Commonwealth. F. E. Hurd, Esq., Mr. Travis' successor as Assistant Attorney-General, now has charge of the legal work of this department. Conveyancing and general office work have continued in charge of Frederic S. Goodwin, Esq., under the direction of the Attorney-General's Department.

Claim Department.

Substantial progress has been made the past year in the settlement of claims. Every claim for lands in the original takings for the Blue Hills, Middlesex Fells, Beaver Brook and King's Beach reservations has been settled. In the Stony Brook there remains one claim to be adjusted, and the same is true of the Hemlock Gorge Reservation. In the Revere Beach Reservation the entire sea front has been paid for, and there only remains one claim outstanding for land taken for the bath-house site. Of the lands taken for the new locations of the railroads at Revere, ten claimants remain to be settled with. Of the claims for small additional takings made since the original taking, five remain to be settled in the Blue Hills and one at Stony Brook. There are still pending five suits for lands taken on Charles River under the original act. In the case of the recent takings, awards have been made or are in preparation, based upon figures furnished by appraisers who are instructed to carefully examine each case, and to base their returns, so far as possible, upon actual sales of similar property. Using these figures

for a guide, the Commission have adopted the rule of making their award a fair and full value of the property taken, and one that they can reasonably expect will be accepted in the majority of cases.

Settlements for lands taken for the parkways has also progressed favorably. In the Blue Hills parkway four claims remain to be adjusted, in the first section of the Neponset River Parkway three, in the Middlesex Fells Parkway three, in the Revere Beach Parkway three.

A large amount of work has been done in this department during the year, in procuring options and preparing estimates for the information of the Commission in relation to the various schemes for improvement which have been under consideration. Investigations of this character were carried on for a considerable time in the case of the proposed takings along the Quincy and Winthrop shores, and similar work is now going on in relation to the banks of the Mystic and Neponset rivers.

Superintendence.

The reservations continue in the charge of the same local superintendents, who are directly responsible to the Secretary for the care and policing of their reservations. Whenever a parkway has been completed, it has been placed under the care of the Superintendent of the reservation with which the parkway is most closely connected. Thus, the Blue Hills Parkway is under the care of the Superintendent of the Blue Hills Reservation, and the Middlesex Fells and Mystic Valley parkways are in charge of the Superintendent of the Middlesex Fells Reservation.

In the *Blue Hills Reservation* no constructive work of any size has been required. The Superintendent, with a small force of laborers, has kept in order the one administration road which furnishes the only means of crossing the reservation from east to west. A portion of this connection was made by using a part of Randolph Avenue, a county road which crosses the reservation from north to south. This old road, which has heretofore been little used and was never built to full width, is about to be used as the location of an electric street railway. The narrowness of the road and the

close proximity of the electric cars make it desirable to replace this link in the route by a piece of road within the reservation. This can be done at a moderate expense, as the materials therefor can be procured in the reservation, and the work is of such character that it can be done under the supervision of the Engineer by the laborers employed in the general care of the reservation, as opportunity offers. In addition to keeping the main road and that portion of Hillside Street within the reservation in repair, the thirteen miles of woods paths and the fireguards have been kept cut out and in passable condition, and the path to the summit of the Great Blue Hill improved and repaired. The bridle path along the north-eastern boundary, which was begun last year, has been continued for a mile further through Saw Cut Notch towards Bunker Hill Lane. The purpose of this path is to provide access with the fire wagon to that portion of the reservation most threatened with the danger of encroachments from fires, which, starting in the neighborhood of the Granite Railway and the Quincy quarries, are liable to extend into the limits of the reservation. Another year has passed without the ravage of fire, due, it would seem from former experience, to the removal of the dangerous inflammable material from the reservation, and to the system of watchfulness which has been faithfully carried out by the Superintendent and his subordinates. In addition to the preservation of the existing vegetation from fires, some experimental forestry work has been done in the Blue Hills, for the purpose of preserving the best of the old growth and for encouraging young growth of appropriate character to its situation. The lines upon which work of this kind could safely and advantageously be carried on was convincingly stated in the report written by the late Charles Eliot and presented to the Commission shortly before his death. A small amount of such work in Marigold Valley was done under his direction. Similar work has been accomplished this year in the Wolcott Pines, on the side of Hancock Hill, and on the summit of Great Blue Hill. Some fencing has been done along the northern boundary, between Randolph Avenue and Forest Street and on Harland Street. This reservation has also

supplied timber for bridges and fences in some of the other reservations. At Hoosicwhisick Pond a small building has been built for a lunch and bicycle stand, and has been named "Marigold Lodge". It was let to Mr. Everett Lee, who kept it open for the public as long as the weather remained favorable. It appears to have been largely used by the public, considering the distance this lovely spot is situated from any public means of conveyance, and to have contributed much to the convenience of persons visiting the pond and grove. The few bath-houses and boats have been quite inadequate to the demands made for their use in the season. These accommodations will have to be increased, if opportunities are to be given at all for boating and bathing at this place. In the rear of the house built last year on Canton Avenue at the foot of Great Blue Hill, which is now occupied by the Superintendent, a small barn has been built, at a cost of \$1,114. At headquarters on Hillside Street the old farm-house formerly used by the Superintendent is now occupied by a foreman of the laborers. A house on Randolph Avenue at the Milton line is let to an employee. A police officer lives near the Quincy end of the reservation. By this arrangement additional police and fire protection is provided across the long reservation, the eastern and western limits of which are seven miles distant from each other by the shortest line of roads.

The section of the *Blue Hills Parkway* already completed and in use has been kept in repair by the laborers from the reservation, and the elm trees already existing at the Mattapan end have been supplemented by additional planting of new trees where required.

In *Middlesex Fells* no new roads have been built. Several alterations have been required in the thirteen miles of interior roads. These roads are, for the most part, old woods roads which have only been widened, changed or repaired, as necessity has demanded, on the supposition that investigation may show that permanent roads whenever built should follow different lines. With increasing use of the reservation, however, considerations of safety and convenience have made it necessary to make some changes. The laying of a water main by

the Metropolitan Water Board for its high-service system led to the relocation of the road from the entrance of the parkway (Fellsway East) to the top of Jerry Jingle Hill, which work was completed in the spring. The desire of the Water Board to cart in the material for building the reservoir over this road made it necessary to widen and partly relocate a portion of the Hemlock Pool Road from the top of Jerry Jingle Hill to the crossing of the pipe line leading up to the reservoir. The Water Board has contributed to the expense of these changes. The steep entrance to the Half Mile Road which crosses from Woodland Road to Forest Street has been improved by throwing the roadway farther north for a short distance. Improvements have also been made at the Mountain Avenue and Emerson Street entrances in Melrose, at the Bear Hill entrance from Stoneham, and at several points near the south dam of the Winchester reservoir in Medford. The Middlesex Fells are traversed by about eight miles of town, city and county roads; and, as there is practically no longer any private or taxable property on the portions of these highways within the reservation, they were not kept in the condition which their use as an integral part of the connecting roadways of the reservation demanded. Satisfactory arrangements were made with the town of Stoneham and city of Medford by which these roads were put into good condition, partly at the expense of the town and city, and they were then transferred upon a terminable agreement into the care and control of the Commission, and since then have been given the same care as other roads in the reservation.

The work of the gypsy moth committee of the State Board of Agriculture in attempting to exterminate the moth which was present in large numbers in certain sections of the Fells has been extensively carried on this year in the southern part of the reservation. The methods adopted, especially that of burning off the undergrowth, is such as to give cause for uneasiness to those in charge of the reservation. The cutting has been to some extent guided by suggestions of the Landscape Architects; and an inspector supplied from the forces of the reservation, at the expense of the committee, has followed the work. It was finally deemed wise to have the

piles of accumulated brush burned by the employees of the Commission, who would be directly under the control of the Superintendent of the reservation. There has been an earnest effort, both on the part of the officers of the Board of Agriculture and the employees of the Commission, to avoid any friction in the performance of their duties ; but the point of view of the object to be attained is necessarily so different that it seems desirable, if this kind of work must continue from year to year, that some arrangement should be arrived at by which this work should be done by the employees of the Commission, directed, of course, by competent persons.

In the early part of the year the Metropolitan Water Board took Spot and Doleful ponds and the lands about them formerly controlled by the joint water boards of Melrose, Malden and Medford. These lands had been heretofore treated substantially as a part of the Middlesex Fells Reservation, and had been under the protection of this Commission. By an agreement between the Metropolitan Water Board and this Commission the same arrangement will be continued. Similar conditions exist in the case of the water holdings of Winchester and Medford.

The policing of the reservation has been better provided for by increasing the number of regular officers to five, four of whom live in houses in different sections of the Fells. A considerable number of arrests were made this fall of persons carrying firearms and one for snaring of birds. The heavy fines imposed for this offence are likely to deter persons in the future from disturbing the song birds and small game which appear to be increasing in the woods.

Increasing numbers visit the reservation, but the approachableness of the Fells from every direction makes it impossible to obtain statistics. The lookout on Bear Hill has been repaired and painted, and the skating ponds at the end of Fellsway West have been improved. The fireguards and woods paths have been kept cut out, and the incessant watch against woods fires has been maintained successfully. Outside of the exception above mentioned, the only occasions for arrests have been one case of vagrancy and one for the

setting of a fire. Indeed, the order preserved in all the reservations has been eminently satisfactory.

The *Middlesex Fells Parkway* has been placed in charge of the Superintendent of the Fells. The section from Broadway Park in Somerville to the circle on the boundary line between Medford and Malden is known as Fellsway; the branch to the right, leading to the Bear's Den entrance of the reservation, as Fellsway East; and the left branch, which ends at Pine Hill in Medford where Forest Street enters the reservation, as Fellsway West. This parkway is the great northern parkway of the system leading from the densely populated region of the district to the northern forest reservation, and is in design a counterpart of the great southern parkway, the Blue Hills Parkway, which, continuing the plan of Blue Hill Avenue between Franklin Park and the reservation, extends from Mattapan to the Blue Hills, and furnishes a similar outlet from the heart of the city to the southern forest reservation of the system. These parkways are both of the double-road construction, with a planting space between which can when needed be used for a reservation for electric cars. Heavy traffic is excluded therefrom, except so far as is necessary in getting to houses fronting thereon from the nearest highways. Fellsway East was the first section to be completed, and has been referred to in previous reports. Fellsway was fully opened to travel in September last, and Fellsway West on November 9. Under the direction of the Superintendent, a considerable amount of tree-planting and fencing has been done, and a tool house and shelter for patrolmen built.

The *Mystic Valley Parkway* is also administered in conjunction with the Middlesex Fells Reservation. The popularity of this parkway increases, and now that the charming ponds of the Mystic Water System can be used for boating, the use of the parkway is likely to continue to grow larger. Citizens of Medford have organized as a corporation, and the coming season, with the approval of both the Metropolitan Water Board and this Commission, will erect and maintain a suitable boat-house at the dam between the upper and lower Mystic Ponds. Citizens of Winchester have also ap-

plied for a similar privilege on the Abbajona River, near its outlet into the upper Mystic. These privileges are to be exercised in a manner to be approved by both the Water Board and the Commission, and will give the public, a means of exercise and recreation which has long been desired by those living in this part of the district. No special work outside the care of the drive has been required this year in the parkway, except the construction of a fence guard at the approaches to the Abbajona Bridge, along which groups of shrubbery have been started.

In the *Stony Brook Reservation* the principal event has been the building of Turtle Pond Road, before mentioned, which not only opens this reservation acceptably to the public, but also somewhat simplifies its care in providing a road for administrative purposes through the interior of the reservation. Last year the west boundary line of this reservation was cut out and made passable, the object being protection against fire, a danger to which these woods are peculiarly liable from fires starting without the boundaries. The same work has been done this year on the easterly boundary, and both boundaries are now in condition to be used as bridle paths, and with care can be driven over for their entire length. The design of this reservation requires that ultimately boundary roads shall be built on these lines; and therefore this preliminary work, though carried out now only for a special purpose, has a permanent value. For this work and for fire protection the Superintendent had under him a small gang of laborers, which he has also used in keeping open the paths and fireguards, smoothing up the raw spots left by the building of Turtle Pond Road, and rebuilding some of the rustic bridges across the brooks. The ball field at Happy Valley and the skating pond have been kept in order and have been used by large numbers of the children of Hyde Park.

In the *Beaver Brook* and *Hemlock Gorge* reservations no further development has been called for. In the matter of administration these reservations are much alike. They are small in size, and yet contain a charming combination of woods, pond and stream. They are easily reached by elec-

tric or steam cars, and in summer are largely visited by picnickers and in winter by skaters. Each is in charge of a competent Superintendent, and no laborers are employed except as occasion demands. Except for some slight conveniences, such as drinking fountains, sanitaries, rough seats, rustic bridges across the brooks, and the removal of old wood and rubbish, they have been left in a natural state, and for many years can remain in their present rural condition. The rules governing their use are well observed, and they seem to give genuine pleasure to the many people who visit them. At Hemlock Gorge a carry for canoes has been arranged at the upper dam, and at Beaver Brook shrubbery has been planted along Mill Street where the street was widened last year.

The *Charles River Reservation*, outside of the work on the Speedway section, to which reference has been made, does not call for special mention. The city of Boston, under arrangement made with the Commission, is extending Brook Street at Faneuil underneath the tracks of the Boston & Albany Railroad and through the reservation to the North Beacon Street Bridge. Some fencing has been done, and more will be required in the spring. An old ruined mill at Newton Lower Falls has been removed, and next summer it will be possible to remove other buildings included in the recent takings.

The *Revere Beach Reservation*, or rather that portion of it between Eliot Circle and Revere Street upon which improvements have been made, has been visited by increasing numbers of people during the summer months. Estimates made on several Sundays and holidays place the crowds of people at the beach as high as 75,000. No new development was attempted this year, but during the winter and spring considerable was done to prepare for the summer months. The driveway was completed between Shirley Avenue and Eliot Circle, as the circle at the southern end of the reservation is now called. This necessitated the removal of the police station and Superintendent's house from the crest of the beach to the land side of the driveway, and now one can stand at the circle and see the curve of the beach

stretching away before him three miles to the wooded Point of Pines, the northern end of the reservation. The police station was placed on the lot at the corner of Shirley Avenue and the Revere Beach Driveway, the lot fenced in and provisions made for the checking of bicycles in the yard. A temporary wooden shelter was built at the corner of Revere Street and the Revere Beach Driveway, for the protection and comfort of the large number of people who arrive at this point by electric cars. It has been largely used during the summer. The plans adopted for Revere Beach call for a permanent shelter building at this point; but its erection has been postponed until the development shall be carried on beyond Revere Street, where it now stops. On the beach additional canvas-top shelters were erected during the summer. In front of the two iron shelter buildings, one of which is opposite the bath-house and the other between Shirley Avenue and Beach Street, bulkheads were built of sleepers from the old railroad location and stones found on the beach, to prevent the undermining of the foundations of these buildings by extraordinary storms. The work was done by laborers under the direction of the Superintendent of the reservation, and was regarded simply as precautionary. On November 27 last occurred the worst storm known on this coast since the storm of April, 1851, when the lighthouse on Minot's Ledge was destroyed. The records of the Engineering Department show that the height of the tide was within seven inches of the point reached in 1851. Ordinary high water is about 10 feet above Boston base, and the Revere Beach Driveway is built at grade 19. Nevertheless, the breakers rolled up to the crest of the beach, and time and again carried large quantities of stones and debris into the road. The shelters, although standing outside the driveway, were uninjured, due, it is believed, to the bulkhead work above mentioned. The only damage to the reservation was the undermining of about 140 feet of curbing, the breaking in of the doors of the subways to the bath-house and a gully formed on the land side of the driveway, where the water found its way down one of the town streets leading into the reservation. Below Revere Street, where the old roadway

has not been changed, the water swept across, carrying with it in many cases the old track of the Boston, Revere Beach & Lynn Railroad, which was left when the railroad removed to its new location. It would seem that the proper grades had been adopted for the new construction. A small force of laborers was kept in the reservation during the summer, for the care of the roadway, gutters and sidewalks, and in keeping the beach clean from rubbish. A few women were employed at the bath-house in the winter and spring, repairing and strengthening the bathing suits for use in the summer.

The bath-house has been again the principal feature of the reservation. It was opened on June 10 and closed September 20. The hours were fixed from 10 A.M. to 9 P.M., tickets not to be sold after 8 P.M. The prices were as follows : —

	Cents.
For use of bathing suit, towel and dressing-room, . . .	20
For use of towel and dressing-room,	15
For use of children's trunks and dressing-room, . . .	10
For checking bicycle,	5

The total number of bathers was 140,482, of which 90,439 were males and 50,043 females. The largest number on one day was on August 7, when 5,508 used the bath-house. Bicycles were checked during the season to the number of 9,941. An additional life patrol was employed on crowded days. Five persons were rescued from drowning. Two fatal accidents occurred, neither of which can be attributed to the negligence of the employees. The emergency room was made use of 138 times. A physician was called in 12 times, but the remainder of the cases were cared for by the persons in charge of the bath-house. The number of employees in the bath-house has been 72 on Saturdays, holidays and Sundays, and 62 on other days. The season was remarkably favorable for bathing. Good order was preserved, and no complaints of the conduct of the bath-house were received. The only criticism heard is that the accommodations are not sufficient on the largest days. Additional rooms were built

this season by utilizing one of the bicycle sheds for the purpose.

On Sunday, September 4, there were nearly 4,000 bathers, and on the following day, Labor Day, the bath-house was used by 5,485 people, — next to the largest number of bathers ever accommodated on one day. After the exhausting work of the day was over, and while the watchman was in the lower part of the building, a fire started in the laundry in the vicinity of the chimney which carried the boiler flue. The alarm was at once given, but the fire was not stopped until the roof of the administration building had been completely burned, and the contents of the second floor of the building, which was occupied by the laundry and office, burned or badly damaged. The first and basement floors and the bath-houses in the two yards were not injured, and it was possible to open the bath-house for use after a delay of forty-eight hours. The cause of the fire was investigated by the Fire Marshal of the State; and while the origin is not absolutely certain, it seems probable that the cause was from an overheated chimney, occasioned possibly by the extreme heat to which it was subjected by the constant use of the laundry made necessary by the business of three successive warm days. The cost of restoring the bath-house in the manner in which it was originally built is estimated at about \$25,000. The Commission, however, have deemed it wise to replace the old roof, which was of wood, with a fire-proof roof of steel and iron. This will, of course, increase the expense to some extent. As some inquiries have been made as to whether or not the bath-house and its contents were insured, it may be proper to call attention to section 39 of chapter 16 of the Public Statutes, which provides that “No board or officer shall insure any property of the Commonwealth without special authority of law”. The propriety of insuring this property had occurred to the Commission, but they were advised by the Attorney-General’s Department that this statute forbade so doing.

The total receipts from the bath-house during the summer, including the checking of bicycles, were \$26,142.80. The expenditures were as follows: —



BLUE HILLS PARKWAY, MATTAPAN SECTION.

Pay roll,	\$13,089 17
Bath suits,	3,258 51
Lighting,	1,295 10
Coal,	431 57
Laundry work,	376 89
Medicines and medical attendance,	73 83
Electrical work and supplies,	199 36
Furnishings,	148 78
Tools, materials, etc.,	131 51
Bath tickets,	111 80
Architects,	300 00
Ice,	130 05
Stationery,	183 42
Repairs,	178 29
Medical inspection,	200 00
Findings,	109 97
Engine room supplies,	108 47
Telephones,	102 25
Stockings,	102 97
Laundry supplies,	100 47
Rubber hose,	86 29
Lunches and car fares for employees,	79 73
Latches and keys,	64 55
Uniforms,	49 27
Mangle cover,	41 25
Rubber rings,	55 00
Disinfectant,	37 50
Brass checks,	23 71
Changes in valuable rooms,	27 60
Paints,	13 35
Miscellaneous,	99 24
Total,	<hr/> \$21,209 90

Although the account shows a favorable balance, when the depreciation of the plant, the necessity of replacing bath suits and the requirements for extra policing are considered, it is evident that, if the bath-house is to continue self-supporting, the prices must remain for the present unchanged.

3. FINANCES.

I present with this report the usual financial statement, giving in detail the expenditures from Dec. 1, 1897, to Dec. 1, 1898. In conformity with the provisions of chapter 550 of the Acts of 1896, the cost of maintenance and operation is charged directly to the general loans.

The following tables show in brief form the expenditures under the various park loans for the year ending Dec. 1, 1898 : —

METROPOLITAN PARKS LOAN.

Blue Hills Reservation : —

Land,	\$8,274 50
Labor,	9,100 05
Miscellaneous,*	16,232 40

\$33,606 95

Middlesex Fells Reservation : —

Land,	\$40,795 10
Labor,	8,713 82
Miscellaneous,	19,063 82

68,572 74

Revere Beach Reservation : —

Land,	\$260,541 98
Labor,	3,625 21
Miscellaneous,	70,483 15

334,650 34

Stony Brook Reservation : —

Land,	\$60,611 81
Labor,	5,710 79
Miscellaneous,	13,587 38

79,909 98

Beaver Brook Reservation : —

Labor,	\$1,311 50
Miscellaneous,	1,242 69

2,554 19

Hemlock Gorge Reservation : —

Land,	\$300 00
Labor,	942 95
Miscellaneous,	1,049 77

2,292 72

Charles River Reservation : —

Land,	\$332,405 84
Labor,	130 17
Miscellaneous,	33,899 86

366,435 87

West Roxbury Parkway : —

Land,	\$500 00
Miscellaneous,	5 00

505 00

King's Beach Reservation : —

Land,	\$9,629 42
Miscellaneous,	595 78

10,225 20

General expense,

19,581 05

\$918,334 04

* For division of miscellaneous charges, see tables on pages 86-98.

METROPOLITAN PARKS LOAN, SERIES II.

Blue Hills Parkway:—

Land,	\$20,936 00	
Labor,	139 84	
Miscellaneous,	21,243 96	
	<hr/>	\$42,319 80

Middlesex Fells Parkway:—

Land,	\$43,420 09	
Labor,	75 00	
Miscellaneous,	138,418 11	
	<hr/>	181,913 20

Mystic Valley Parkway:—

Land,	\$18,668 75	
Labor,	55 50	
Miscellaneous,	12,781 74	
	<hr/>	31,505 99

Revere Beach Parkway:—

Land,	\$10,750 48	
Labor,	10 00	
Miscellaneous,	43,577 40	
	<hr/>	54,337 88

Middlesex Fells Boundary and Roads:—

Miscellaneous,	\$5,235 50	
	<hr/>	5,235 50

Stony Brook Boundary and Roads:—

Miscellaneous,	\$29,396 99	
	<hr/>	29,396 99

Neponset River Parkway:—

Land,	\$11,461 05	
Miscellaneous,	2,542 58	
	<hr/>	14,003 63

Charles River Speedway:—

Miscellaneous,	\$142,418 32	
	<hr/>	142,418 32

General expense,		14,581 34
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\$515,712 65

The following tables show the total amount expended in each loan and the cost of each reservation and parkway to date, and the amounts charged and reserved by the Auditor's Department to meet the sinking fund and interest requirements to Jan. 1, 1900:—

METROPOLITAN PARKS LOAN.

Blue Hills Reservation : —

Land,	\$349,320 29
Labor,	113,375 94
Miscellaneous,	72,349 87

 \$535,046 10

Middlesex Fells Reservation : —

Land,	\$676,609 88
Labor,	91,314 94
Miscellaneous,	83,915 96

 851,840 78

Revere Beach Reservation : —

Land,	\$1,066,684 03
Labor,	5,500 24
Miscellaneous,	352,938 57

 1,425,122 84

Stony Brook Reservation : —

Land,	\$255,563 41
Labor,	27,087 40
Miscellaneous,	36,574 21

 319,225 02

Beaver Brook Reservation : —

Land,	\$29,819 29
Labor,	8,179 27
Miscellaneous,	8,929 98

 46,928 54

Hemlock Gorge Reservation : —

Land,	\$46,900 00
Labor,	3,680 70
Miscellaneous,	8,496 49

 59,077 19

Charles River Reservation : —

Land,	\$603,944 89
Labor,	130 17
Miscellaneous,	58,204 95

 662,280 01

West Roxbury Parkway : —

Land,	\$244,976 01
Miscellaneous,	8,313 67

 253,289 68

King's Beach Reservation : —

Land,	\$22,347 21
Miscellaneous,	625 53

 22,972 74

General expense, 81,973 16

 \$4,257,756 06

Sinking fund requirements to 1896, . \$18,980 18

Care and maintenance to July 1, 1896, . 85,813 46

Care and maintenance July 1, 1896, to

Jan. 1, 1897, 19,604 06

Sinking fund assessment for 1897, . 63,630 70

 188,028 40

Total charged to Dec. 1, 1898, \$4,445,784 46

METROPOLITAN PARKS LOAN, SERIES II.

Blue Hills Parkway:—

Land,	\$102,050 26
Labor,	507 82
Miscellaneous,	37,327 02

 \$149,885 10

Middlesex Fells Parkway:—

Land,	\$185,619 42
Labor,	999 78
Miscellaneous,	370,316 56

 556,935 76

Mystic Valley Parkway:—

Land,	\$120,347 56
Labor,	514 20
Miscellaneous,	140,385 20

 261,246 96

Revere Beach Parkway:—

Land,	\$22,234 73
Labor,	10 00
Miscellaneous,	71,694 09

 93,938 82

Middlesex Fells Boundary and Roads:—

Labor,	\$11,356 44
Miscellaneous,	11,211 58

 22,568 02

Stony Brook Boundary and Roads:—

Labor,	\$2,100 93
Miscellaneous,	31,383 27

 33,484 06

Neponset River Parkway:—

Land,	\$11,461 05
Miscellaneous,	2,542 58

 14,003 63

Charles River Speedway:—

Miscellaneous,	\$142,418 32
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 142,418 32

Blue Hills Boundary:—

Labor,	\$5,242 90
Miscellaneous,	471 51

 5,714 41

Middlesex Fells and Lynn Woods:—

Miscellaneous,	\$4,423 75
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 4,423 75

General expense,	37,168 85
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 \$1,311,787 68

Sinking fund requirements to 1896,	\$3,650 03
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Sinking fund assessments for 1897,	14,057 10
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 17,707 13

 Total charged to Dec. 1, 1898, \$1,329,494 81

The appropriations heretofore made are as follows : —

METROPOLITAN PARKS LOAN.

Original appropriation, chapter 407, Acts of 1893,	\$1,000,000 00
First Revere Beach Act, chapter 483, Acts of 1894,	500,000 00
Charles River Act, chapter 509, Acts of 1894,	300,000 00
Second Revere Beach Act, chapter 305, Acts of 1895,	500,000 00
General appropriation, chapter 466, Acts of 1896,	1,000,000 00
General appropriation, chapter 464, Acts of 1897,	500,000 00
General appropriation, chapter 530, Acts of 1898,	1,000,000 00
	<hr/>
	\$4,800,000 00
To provide for interest and sinking fund requirements to 1900, chapter 311, Acts of 1897,	900,000 00
	<hr/>
Total amount of loans,	\$5,700,000 00
Amounts received for sales of buildings, receipts from bath-house, fines, etc.,	57,007 99
	<hr/>
Total,	\$5,757,007 99
Total of the amounts already charged to the loans,	\$4,445,784 46
Amounts reserved by the Auditor,	296,574 40
	<hr/>
	4,742,358 86
	<hr/>
Balance remaining in hands of the State Treasurer,	\$1,014,649 13

METROPOLITAN PARKS LOAN, SERIES II.

Original boulevard, chapter 288, Acts of 1894,	\$500,000 00
General appropriation, chapter 472, Acts of 1896,	500,000 00
General appropriation, chapter 521, Acts of 1897,	1,000,000 00
Saugus Bridge Act, chapter 547, Acts of 1898,	100,000 00
	<hr/>
	\$2,100,000 00
To provide for interest and sinking fund requirements to 1900, chapter 311, Acts of 1897,	100,000 00
	<hr/>
Total amount of loans,	\$2,200,000 00
Receipts for sales, etc.,	6,099 00
	<hr/>
Total,	\$2,206,099 00
Amounts already charged to the loans,	\$1,329,494 81
Amounts reserved by the Auditor,	52,171 30
	<hr/>
	1,381,666 11
	<hr/>
Balance remaining in hands of the State Treasurer,	\$824,432 89

Respectfully submitted,

JOHN WOODBURY,

Secretary.

LANDSCAPE ARCHITECTS' REPORT.

To W. B. DE LAS CASAS, Esq.,

Chairman of the Metropolitan Park Commission, Boston, Mass.

SIR:—We respectfully submit the following report for the year ending Dec. 1, 1898. We have made these subdivisions: I. Reservations: A. Of Forest; B. Of Brook and River; and C. Of Bay and Seashore. II. Parkways: A. Acquired or determined; and B. Proposed.

I. RESERVATIONS.

A. *Forest Reservations.*

In the Blue Hills our advice has been asked by the Commission with regard to several important problems which have been forced upon its attention by the rapid growth of the surrounding towns. The town of Milton in particular has felt the need of electric car transportation, and has undertaken to widen some of its streets in order to provide space for railway tracks. One of the main approaches to the reservation, Randolph Avenue, was to be thus widened; and, as the plan adopted by the town involved the destruction of all the shade trees which have made the road attractive, we devised, at the request of the Commission, a plan by which most of the trees might be saved, and the agreeable character of this approach preserved without increasing the proposed width. The town, however, did not see fit to alter the adopted plan, except at the points actually abutting upon the reservation, where the Commonwealth was asked to contribute all the land for the widening. At these points the town agreed to leave the highway with its elms untouched, and carry the tracks upon a strip to be taken from the reservation immediately alongside of the trees. South of the

Milton boundary Randolph Avenue runs through the western corner of the city of Quincy, but wholly within the Blue Hills Reservation. The street itself is in control of the city, and a franchise for laying railway tracks was granted by the city early in the year. We were instructed to consult with the engineers of the railway, who showed a disposition to make such slight adjustments of the line as we suggested, although the Commission had no authority in the premises whatever.

The action of the city of Quincy in this matter brought out very strongly the danger of serious injury that might arise through the unlimited control by local bodies of public roads in the very midst of the reservations. We have always felt that whatever provision the interests of the surrounding communities may ultimately require in the way of traffic roadways, electric car lines, telegraph and telephone lines, underground pipes and the like within or across the reservations, the granting of locations for such should be under the control of your Commission. The forest reservations are so large that to make them absolute and permanent barriers against such conveniences would be an unjustifiable hardship upon these communities; but constructions of this sort, which would unquestionably serve to distract the attention from the quiet, sylvan pleasures of the reservations, and by their appearance and noises recall the mind to the petty annoyances of the city streets, ought to be segregated and secluded to the utmost; and to ensure this they must be in the control of your Board, and must each be located, whenever demanded by public necessity, in accordance with a careful plan that will minimize their evil effects. It is for this reason that we have heretofore advised the Commission to acquire the streets within the reservations, — a policy which has been carried out during the past year with regard to all the roads in the Middlesex Fells and all except Forest Street and Randolph Avenue in the Blue Hills.

During the year, to provide against contingencies that have not yet arisen, we have studied out a line for a forest drive through Randolph Pass, which will avoid, when convenience demands its construction, nearly a mile of car track

now encountered in driving through the reservation. We have also planned an improvement of the footpath to the summit of Great Blue Hill, and reported upon several minor matters.

A little has been done under our direction in the way of encouraging desirable growths and checking "tree-weeds," but as yet this work has been of an experimental and piecemeal sort. When for two hundred and fifty years man has been making successive sweeping cuttings in a forest area and has allowed fire to supplement his own destructive action, nature's processes are so completely disorganized that however patiently she attempts to restore the forest it will take a still longer period for her to renew its beauty unless she has generous help from man. Large areas in the Blue Hills, burnt over just before their acquisition, are growing up in a monotonous thicket that is, and unless wisely managed will be, as far from a natural forest as a ploughed field gone to weeds is from a beautiful wild meadow. To give nature the help she needs, if the work were well thought out, would lead not only to a more beautiful forest in the future, but to one that without injury to its charm might pay its running expenses, instead of continuing to be an annual burden upon the district. In many of the municipal forests of Europe, where the prime object is, as here, to provide a place of sylvan recreation, this economy of management is secured under a system of trained rangers, each responsible for the care of his own limited range, and acting under a carefully devised general policy. Each ranger or woodman cares for the roads, paths and bridges in his own range, as well as for the trees, guards it against fires and polices it. Each comes to know his range intimately, as a woodman should, — the haunts of its animals and birds, and the nature of all its trees; if anything goes wrong, he knows it, and attends to it at once or reports to his chief. Whether such a system be adopted, or another, and whether it is desirable to put the forest reservations on a self-supporting basis or not, some general policy of management ought to be adopted. If after years of cultivation of whatever sort the field is left wholly alone, the result will be largely enterprising weeds, while

careful attention would tend to restore the lost balance of natural forces.

In the Fells we have been called upon to follow the work done by two State Boards lying beyond the direct control of your Commission ; namely, the Metropolitan Water Board and the Gypsy Moth Committee. The Water Board selected as the site for the northern high-service reservoir of the metropolitan water system a large rock bowl upon the highest part of the south-eastern plateau of the Fells, largely occupied by a swamp and surrounded by ledgy hillocks. It was a simple idea to convert this bowl into a reservoir, damming the low places between the hillocks and excavating the mud of the swamp. But the scale of the work was so large that it became a matter of great importance in the development of the reservation. There was opportunity for much discretion and skill in designing the dams and disposing of the excavated materials so as to do the least possible injury to the local scenery. In accordance with your instructions, therefore, we consulted with the engineers of the Water Board, and after they had prepared preliminary plans we suggested slight changes in the locations of the dams and radical changes in their form. We finally prepared grading plans in accordance with these suggestions, and the work has been going on in substantial conformity with them. These plans call for the disposition of the very large mass of excavated material in hills or ridges of natural form above and behind the engineering dams, which became mere core walls embedded under the slopes of these ridges. The ultimate appearance, when the raw earth is again covered with vegetation, instead of being that of a reservoir retained by artificial dams, will be that of a natural pond near a hilltop, such as often occurs in New England.

We may properly mention here a matter of great interest in this connection, as to which our advice has been independently sought by the Metropolitan Water Board. Spot Pond, although it is in the very heart of the reservation and is its most widely known attraction, is out of the jurisdiction of your Commission and wholly within the control of the Water Board. That Board has from the first proposed

to utilize Spot Pond as the northern distributing reservoir of the new system, — a use for which it is exceptionally well fitted from an engineering point of view. In order to adapt it completely to this use, it may be necessary to enlarge its capacity and to do away with the objection of a shallow, muddy bottom in parts of the pond. The possible methods of making these changes with least injury to the landscape have been reported on by us and are being investigated and considered by the Water Board, but as yet no decision has been reached.

The gypsy moth has been present in parts of the Fells ever since the reservation was acquired, and, notwithstanding the operations of the Gypsy Moth Committee, has every year stripped the leaves from the trees in a few very limited localities. The agents of that Committee have conducted during the past year an exceptionally vigorous campaign in the Fells, and it has been our duty to follow their operations on behalf of your Commission, and to urge upon them any modifications of their methods which we thought would tend to preserve or increase the interest and beauty of the woods, and which did not interfere unduly, in their opinion, with the effectiveness of their work. The ideal treatment of the woods from the point of view of the Gypsy Moth Committee, we understand, would be to reduce the number of trees to about twenty to the acre, to destroy all undergrowth upon which the caterpillars might feed, and to scorch with a petroleum blast all the ground and rocks where colonies of eggs are suspected. Under this treatment such caterpillars as should hatch out of the unburned eggs, finding nothing to eat on the ground, would go up the trees in search of food and be caught in the burlap traps. It is needless to say that our ideal of the forest of the Fells is absolutely different from what such treatment would produce, and we have succeeded, with the assistance of the Superintendent of the reservation, in persuading the agents of the Gypsy Moth Committee to stop far short of such action. We have assented gladly to the removal of a large number of dying trees with defective and rotten trunks which were harboring diseases and other insects than the gypsy moth; we have gladly assented to the

removal of a large quantity of small stool-shoots from stumps of trees felled within the last few years; we have gladly assented also to the removal of a limited number of more or less vigorous sprout-trees, where their removal seemed to us for the ultimate advantage of the woods; we have assented, with regret, to the cutting of the larger undergrowth in certain sections, knowing that it will spring up again from the roots; and we have protested, generally with success, against the total cutting and burning of the smaller ground cover, which gives the forest-floor its charm. Except in some limited areas of severe infection, where everything combustible on the surface of the ground was burned by the petroleum blast (most of which work was not done under our inspection), we have prevented the destruction of any pines or hemlocks, whether small or large, as an increase in the evergreen foliage is greatly to be desired. In addition to guiding in this way the tree-cutting of the Gypsy Moth Committee, we have directed a small amount of cutting by the reservation forces at points near the south boundary road, for the removal of growths that had crept into inappropriate situations or were spoiling the fine views from and toward the crags of the southern escarpment.

Upon the offer, made early in the year by a public-spirited citizen, to pay for the land needed to provide an extended entrance or short parkway leading to the Fells from the nearest highway on the southwest, on condition that the Commission build an earth road therein, we made an examination and a favorable report. For a distance of nearly two miles upon that side the reservation is bordered by private lands, and such an entrance way through them would have great value. We have prepared plans showing what lands would be needed, and where the road should be built so as not to interfere with future more permanent construction.

In the completion of Turtle Pond Road in the Stony Brook Reservation the Engineer has had our assistance and advice in treating the side slopes and supplementary grading, and we have directed the grading and planting around the new Superintendent's house.

B. Brook and River Reservations.

Beaver Brook Reservation has called for comparatively little attention from us. Except for a little planting to replace bushes destroyed by the widening of Mill Street, there has been no work done under our direction. In response to a petition, the Commission directed us to prepare a plan for improving the upper pond as a bathing pool, but, on receiving our report and the estimate of cost, no action was taken. We have noted, as a result of the increased use of this reservation by the public, that the places of greatest resort are becoming worn and rather shabby, and we think it will be the part of wisdom to provide a few well-placed, simple paths, which most of the crowd will follow instead of partially wearing out wider areas, leaving upon them bruised and ragged vegetation. It is evidently possible to retain the woodland ideal of narrow, well-trodden paths leading through the pretty wildness of undisturbed undergrowth only by deliberate guidance of the public. If any such paths are made, however simple they may be, their positions ought to be carefully chosen, so that they will lead where the interest lies, and be convenient; otherwise they will not be used, and will fail to accomplish their purpose.

Almost the same thing might be said of Hemlock Gorge Reservation, where large crowds resort on Sundays in summer, and where they are wearing noticeable paths and bare spots, sometimes in very undesirable places.

On the lower reaches of Charles River we have made plans for takings between Cottage Farms Bridge and the Brookline Gas Works, keeping in mind the possibility of future grading and planting to shut out the Boston & Albany freight yards from the river, and plans to enable the Commission to adjust the boundary of its holdings near Gerry's Landing to the contingencies of future construction. In any planning of this sort we are, of course, greatly embarrassed by the uncertainty as to the future conditions of the river, — whether its banks will continue to be alternately exposed and flooded by the tide, or whether the proposed dam will

be built to convert it into a fresh-water stream like the reaches above the Watertown dam. In the work upon the Speedway the Engineer has had some assistance from us with regard to features of construction affecting the general design. Between Watertown and Hemlock Gorge we have had to make adjustments of our preliminary taking plans, as the conditions of cost and other factors of the problem came to be more accurately known; but the general scheme set forth in our last annual report has not been departed from. The necessary acquisitions of land having been nearly completed, we hope that by the next boating season the facilities for passing the dams at Newton Lower and Upper Falls will be greatly improved, so as to render the charming upper portion of the river readily accessible from the Riverside section. A preliminary study for takings between Hemlock Gorge and Dedham has been made, with a view to supplementing the holdings of the Newton and Brookline Water Works, which have already preserved a large part of the meadows in this section.

Along the Mystic River, from High Street, West Medford, where the holdings around the Mystic Lakes come to an end, to the Middlesex Fells Parkway where it crosses the river from Malden to Somerville, — a distance of about four miles, — we have prepared preliminary plans for takings, limiting ourselves to the very least that would preserve the river banks and something of the characteristic river scenery. The city of Medford having decided to appropriate \$50,000 for playgrounds, to be located so as to supplement or form a part of the river reservation, we have conferred with the representatives of the city and prepared some modifications of our plans to meet their wishes. Unfortunately, we understand, the available funds will not cover the cost of the takings proposed, and a considerable portion of the river will have to be left uncared for, unless the land owners reduce the prices which they are demanding.

On the Neponset River similar preliminary plans have been prepared as a basis for an estimate of cost, extending from the salt marshes below Milton Lower Mills to Hyde Park. As in the case of the Charles River Reservation, it is not

proposed to interfere with the existing mills or with other very expensive properties, but to acquire a narrow margin of the river, where the land is not closely occupied, in order to preserve its beauty.. At most points the lines have been so devised that it would be possible to construct a boundary drive and walk upon one side of the stream or the other when it may be thought needful. Here, again, although the cost has not been wholly ascertained, the prices demanded are such that important parts of the river will have to be left open to the encroachment of houses, stores and back yards, unless there is a general reduction in the prices demanded for the needed land. At the lower and at the upper stretches a more public-spirited attitude is met with, the people on Milton Hill offering their marsh lands at a low rate, on condition that the Commission preserve the rest of the marshes included in their view; and on the Fowl Meadows near Readville both lands and money are being offered, on condition that the Commission acquire other areas of meadowland.

C. Bay and Seashore Reservations.

No addition has been made during the year to the seashore holdings of the Commission. King's Beach has been transferred to the Swampscott Park Commission, and Revere Beach remains as the one shore reservation. Early in the year one of several plans which we prepared for a crossing of the State highway west of the reservation was adopted, and has since been carried out. Later we made preliminary plans for the completion of the northern end of the reservation and for a roadway through the Point of Pines property to the Saugus River, a bridge across which is to connect it with Lynn.

The projects for reservations along the shores of Winthrop and of Quincy have been under discussion during the year, and we have advised with regard to changes in the plans, but on account of the high prices demanded by the land owners, no action has been taken. We regard it as very desirable that the southern half of the district should be provided with a shore reservation.

II. PARKWAYS.

A. *Acquired or Determined Parkways.*

The construction and planting of the northern section of the Blue Hills Parkway, which has now been opened, has called for some attention from us.

We have prepared a number of minor plans for grading, planting, street entrances, building limit lines and the like in connection with the work on the Middlesex Fells Parkway, which is now open to the public and almost wholly completed. Part of the shade tree planting was done by contract under our inspection and part by the Superintendent with advice from us. The latter is the more satisfactory method and will be followed in the future.

On the Mystic Valley Parkway a small amount of planting was done near the bridge over the Abbajona River, to cover the bareness of the new grading, and, with a guard rail, to add to the safety of the bridge approaches. Simple and inconspicuous shrubs alone were used, such as will form a natural-looking thicket, and harmonize with the landscape. All were native kinds except one or two, and those of such a sort as only a botanist could distinguish from native plants. Preparations were made for planting shade trees along the road next spring; but as yet the Commission has not decided upon the planting of trees and bushes on the many banks made bare by the construction of the road, and now covered with a poor turf. The conditions were peculiarly favorable along the Mystic Lakes for making a parkway which should be charming at once, and by carefully adjusting the driveway to the best of the existing growths this result was secured; but it was impossible to so plan the roadway as to leave no scars or bare places. Although these are easily overlooked in the general good effect, it is very desirable that they be planted so as to bring the whole to a wilder and more harmonious effect.

To close the gap between the former end of the Mystic Valley Parkway near the Winchester Station and the Middlesex Fells, — a distance of a little over half a mile, — we have made plans for an extension of the parkway. The region is



NEPONSET RIVER, HYDE PARK.

a steep hill-side, occupied by houses, and for economy of land and construction the width was reduced to seventy feet, and the subdivisions to those of a broad street with a single row of trees on either side. Parts of existing streets were followed, for obvious reasons; but by a diagonal crossing from one to another the worst of the existing grades were avoided, and a reasonably good slope secured without incurring heavy damages for change of grade. The taking having been ordered, construction will proceed during the coming year, and the second main approach to the Fells will be complete, thus making the Mystic Valley Parkway a logical part of the system, instead of an isolated fragment.

The plans for the Revere Beach Parkway have demanded a large share of our attention during the past year, the length of the route and the difficulty of passing without unreasonable expense for land and buildings through Everett and Chelsea making the problem a very perplexing one. Many alternative routes have been studied, and many different plans as to the width and treatment of different portions have been considered. The route encounters successively large areas of cheap land and smaller areas of costly land already occupied by buildings, and we have felt that a given expenditure would lead to the most interesting final result if the parkway were reduced in the expensive portions to the least possible width, and the saving thus effected applied toward considerable expansion in the cheap lands. It was obvious that, if no provision need be made for electric car tracks within the parkway, the minimum width might be greatly reduced. It was, in effect, a question whether to provide for electric cars, to do which, with the limited funds available, would result in a monotonous, formal, "electric-car boulevard," or, on the other hand, to resolve positively and once for all to exclude electric cars, in which case, by economizing in width through the expensive lands, certain other portions of the parkway could be made to include lawns and shrubbery and other interesting features, thus making the route as a whole more agreeable and attractive than would otherwise be possible. Many of the reasons in favor of providing for electric cars on Fellsway, for instance,

were lacking in this case, and others were much weaker ; so that, after a full discussion, the Commission decided to exclude them. Our final plans, in conformity with which taking plans are now being prepared, were made in accordance with this decision.

The district is to be congratulated upon having this connection assured, for Revere Beach, by all odds the most popular of the reservations, although fairly accessible by steam railroad and by electric cars, has no means of approach by carriage or bicycle, except over narrow, crooked and ill-paved town streets, through a district much of which is sordid and uninteresting.

At the south of the district the chain of parks, reservations and broad parkways that stretches toward the Blue Hills from the heart of the city has been extended by a taking between the southern end of the Stony Brook Woods and the Providence Railroad near Readville. This connects the reservation directly with the system of highway bridges and subways which has just been constructed under the direction of the Railroad Commission for passing the tangle of tracks at this point. From there all present needs are met by Milton Street, which leads directly to Paul's Bridge and the slope below the Blue Hills. We believe that in the distant future a separate and more convenient and agreeable overhead crossing of the tracks will be desirable for the parkway ; but, as its provision is almost wholly a constructional problem, the solution may wisely be left to the generation that feels the need of it.

B. Proposed Parkways.

The various projects for parkways which the Board has asked us to investigate have been referred to us as separate problems, and in making plans and reports we have, for convenience, so treated them ; but we have always considered each in its relation to the others, and as part of a logical, connecting system, designed to render the great reservations conveniently and agreeably accessible one from another and all from the larger centres of population. The only serious gap now left in the chain of parks and parkways beginning

in Boston, leading through the Stony Brook Woods and intended to reach to the Blue Hills, is between Paul's Bridge and the reservation. For closing this gap we have studied alternative routes for a parkway, and have made a preliminary report, but as yet no action has been taken.

The corresponding outermost link of the chain from the Boston Parks to the Fells is fortunately secured, as mentioned above, but the remainder of the northern chain is very fragmentary. The first gap is between the Charles River Reservation at Gerry's Landing opposite the Speedway and Fresh Pond Park. Here some progress has been made, through the purchase, partly by public subscription and partly by the funds of your Commission, of a portion of Elmwood as a Lowell memorial park. It is to be expected that whenever the time comes for constructing a parkway to Fresh Pond the route will pass through part of this property, and we have made tentative plans for such a line. After conferences with those representing the larger land owners between Elmwood and Fresh Pond, we have prepared revisions of our earlier suggestions for completing the connection. The Commission has made some investigations as to the cost of the lands included in these plans, but has not seen its way to taking any action.

From Fresh Pond to the Mystic River, as stated in the last annual report, alternative routes naturally suggest themselves, — one by way of Alewife Brook and one by way of Spy Pond, Arlington. Unquestionably the former would be far cheaper in cost of land; and, as this connection is needed not so much for any present use as to provide for the future, it may be wise to secure the cheap, low land along the brook at a moderate cost, leaving the greater expense and difficulties of construction to the future. The route by Spy Pond not only has the advantage of involving somewhat less expense for construction, but it has the advantage from a landscape point of view of the pond itself, and the advantage of serving another centre of population. Moreover, the town of Arlington has appropriated \$45,000 for the acquisition of lands for a parkway around the pond and between the pond and the Mystic River, but this appropriation is made con-

ditional upon the construction of the parkway by your Board. What expense is involved in this proposition has not yet been investigated, and it is quite possible that the interests of the district would be better served by a small present investment for land along Alewife Brook, which would be a sufficient provision for future needs, than by a much larger present expenditure for both land and construction on a part of the Spy Pond route.

No progress has been made toward bridging the gap between the park systems immediately north and south of the Charles River. The critical importance of widening St. Mary's Street and Audubon Road from Beacon Street to the river, as proposed by the Boston Street Commissioners, before this widening is blocked by buildings, is just as evident as ever, but the city takes no action. The question of a bridge at St. Mary's Street is so involved with the problem of damming the river that its consideration must be left until your report is made to the Legislature upon the latter all-important question.

We have made examinations and reports during the year in regard to two other proposed parkways, — one to connect the Middlesex Fells with the Lynn Woods and one to connect the Lynn Woods with Revere Beach. The former has been considered by us in previous reports as a desirable feature of the general system, though by no means of such pressing importance as the other connections mentioned above, while the latter has not previously been studied. As the Legislature has called for special reports from your Board upon these two projects, we may properly omit any detailed consideration of them in this place.

A very clear idea of what has been accomplished by the Commission in its five years of activity can be obtained from the accompanying map of the district, the framework of which is a reprint of that forming a part of the original report of Mr. Eliot to the preliminary commission in 1893. Upon this map we have indicated the public open spaces held by local bodies in light green, just as upon the original map ;

the lands already controlled by your Board or the acquisition of which is provided for, in dark green ; and those which have been recently considered as possible additions, in brown.

If this map is compared with that of the original report, many changes in the distribution of brown and green will be observed, which indicate graphically the progress toward the plan then mapped out, and the modifications in that plan brought about by the experience of five years. A certain increase in the number of local holdings will be observed, mainly in the way of small parks and playgrounds, although the boulevards of Commonwealth Avenue in Newton and Blue Hill Avenue and Columbia Road in Boston have been created, and Cambridge has added a noble river parkway to its system, while the boundaries of Lynn's great woods have been extended and improved.

Of the system of proposed reservations indicated on the map, by far the larger part has been acquired. In the Middlesex Fells, except for the large triangle of land on the southern border and the block of private property just east of Spot Pond, substantially all the proposed reservation has been secured. These two omissions made on account of cost are unfortunate, the latter being especially deplorable on account of its situation in the heart of the reservation ; but the closeness with which it has been practicable to follow the plan in other respects is gratifying. Passing to the south of the district, the Stony Brook Reservation has been secured, although the suggested dimensions have been reduced to less than half, on account of the cost ; while, on the other hand, at the Blue Hills it has proved feasible to make a very considerable increase in the area originally contemplated.

The other proposed hill reservation included Prospect Hill, Bear Hill and Doublet Hill near Waltham, — an important location, serving for the west of the district to balance the other great reservations on the north and south. In spite of its advantages of location and scenery, this proposed reservation has never aroused much public demand, either disinterested or selfish, nor has the Commission looked with

much favor upon it; and consequently the brown which here marked the map of 1893 has dwindled to a little space of green that represents the taking made by Waltham on Prospect Hill.

Of the fresh-water reservations proposed, that at Beaver Brook and that at Hemlock Gorge were among the first takings of your Board. These were followed somewhat later by the takings along the eastern shore of the Mystic Lakes and the formation of part of the Mystic Valley Parkway. Any control over the western shores of these lakes is still lacking, and this lack is, as we have repeatedly pointed out, a serious menace to the beauty of this reservation. Along the Charles River substantially all that was then proposed has been accomplished. The width of the takings has been pared down by the need for economy, it is true, but even a greater length of shore than was hoped for at that time has been secured. Upon the Mystic below the Lakes and on the Neponset none of the proposed takings have been made, but more detailed study and the changes of six years have altered the proposed lines. On the Mystic above the Fellsway bridge they remain similar, although reduced, but below that bridge no takings are now considered feasible. Commerce has too strong a claim upon these shores, and already the delightful scenery of Island End Creek, so pleasantly described in Mr. Eliot's report, is overwhelmed by the great structures of the Pipe Line Gas Company. It has been thought best also to give up any attempt at takings along the Malden River, which winds its estuary through these lower marshes, except for a little widening of the Revere Beach Parkway where it crosses the channel. The brown strip which on the original map crossed over from the Mystic by way of Snake Creek to Revere Beach is now replaced by the green of the Revere Beach Parkway. The brown band along the Neponset is somewhat altered in form and somewhat reduced in area, but what seemed desirable six years ago still seems, after closer study and effort, to be feasible upon substantially the original plan.

Along the shore the curve of Revere Beach, by far the most important of the proposed takings, is now marked with

the green of accomplishment, except that the Point of Pines is not included. The other areas of brown along the shore, though changed somewhat in form, still retain that color, to indicate that they are still desirable, if too great cost stand not in the way.

In short, the project set forth so boldly, on such broad and comprehensive lines, only six short years ago, has been substantially accomplished, except as to the two minor rivers and the two minor shore fronts, and of these the rivers seem almost assured.

Over and beyond the series of reservations projected in the beginning, it early became apparent that a system of parkways serving to give access to them and tie them into a connected whole would add greatly to their value. In frank recognition of this idea, the West Roxbury Parkway, to link the Stony Brook Woods to the Boston Park System, was among the very first problems which the Landscape Architects were called upon to consider, and among the first takings made by the Board. From that time to the present the development of a general plan of parkways has had our constant attention, in conjunction with our study of changes needed in the scheme of reservations. From their nature, parkways are of especially direct and immediate benefit to the real estate through which they pass, and this has led to a much more active agitation before the Legislature in favor of the parkways than in favor of the reservations themselves. Some of the projects agitated from interested motives have been proper parts of the comprehensive system which we have studied out, while some have been almost without value to the district at large; but in reporting upon any of the parkway schemes which have been officially referred to us we have always had in mind this general system as a test. The relations of the different parts of the system as described in detail above are indicated very clearly on the map.

Respectfully submitted,

OLMSTED BROTHERS.

ENGINEER'S REPORT.

BOSTON, Nov. 30, 1898.

To W. B. DE LAS CASAS, Esq.,

Chairman Metropolitan Park Commission.

Sir: — The following is the fourth annual report of the Engineering Department.

The organization of the department has remained nearly the same as that of last year, except for a reduction of from 51 to 48 employees. The facilities for carrying forward the work, and the department's general usefulness, have been increased by the change made, October 3, in the location of the office, thus bringing it in close connection with the executive and other departments of the Commission.

A general statement of the work performed by the department during the year ending Nov. 1, 1898, briefly stated, is as follows: many topographical surveys and maps, with sufficient detail, to serve as a basis for studies and estimates of possible takings; estimates of areas and cost of improvements or projected construction; surveys and plans for actual takings; the permanent defining of boundaries of the lands acquired; the preparation of construction plans, and the establishment of grades, for parkways and roads; engineering and supervision of several constructive works; and the reconnaissance of various lines for proposed parkways. Details of these undertakings are given under the different headings of parkway and reservation, and in the accompanying tables.

An appraisal of the property in charge of this department, omitting the value of maps, plans, notes and other records, is as follows: —

Equipment:—

Offices,	\$1,908 00	
Surveying and drawing instruments, . .	3,197 00	
Miscellaneous,	60 00	
	<hr/>	\$5,165 00

Supplies:—

General,	1,241 00	
	<hr/>	
Total,		\$6,406 00

PARKWAYS.

Blue Hills Parkway (Neponset River to Blue Hills Reservation, Milton).—The work of building the portion from Neponset River to Brook Road, in the town of Milton, begun Sept. 3, 1897, was completed July 21, 1898, under contract with F. X. Saucier. The total cost of construction, according to vouchers of this department, has been as follows:—

Previously reported:—

Construction,	\$7,227 93	
Engineering and inspection,	388 75	
	<hr/>	\$7,616 68

Year ending Nov. 1, 1898:—

Balance of contract,	\$13,515 16	
Miscellaneous,	377 72	
	<hr/>	\$13,892 88
Engineering and inspection,	1,029 85	
	<hr/>	14,922 73
Total (length, .28 of a mile),		<hr/> \$22,539 41

The above total gives the cost of construction, for a parkway ranging from 120 feet to 230 feet in width, average 136 feet, with two roadways having broken-stone surfacing, at the rate of \$80,498 per mile.

The taking lines on completed portion, and from Canton Avenue to the reservation, have been defined with stone bounds. The remaining portion has had only a sufficient number set to preserve the base lines from which the side lines are located. A permanent system of lighting and maintenance can be better adopted after such extension has been made as will give sufficient length to warrant its adoption. Plans and estimates have been prepared for the con-

struction to Canton Avenue, a distance of 1.17 miles from Brook Road.

Charles River Speedway (North Harvard Street to Western Avenue, Boston). — The speedway section of Charles River Reservation comprises the takings made of the marshes from North Harvard Street to Western Avenue in the Brighton district of Boston. The area of this portion is 89.56 acres, with a shore frontage of 2 miles. The plan provides for walks and planting spaces, 1.16 miles of 60 foot and .58 of a mile of 40 foot driveway, and the requisite length to secure a mile speedway 50 feet in width. The marsh elevation above city of Boston datum averages 11 feet, scarcely above mean high water, necessitating the construction of a dike the entire length of shore line to keep out high tides. The top of this dike, now nearly completed, is 8 feet in width, with grade at elevation 16. The area of marsh enclosed is 125 acres, or to contour 13, at elevation of highest spring tide, 145 acres.

Construction plans having been prepared, proposals were received Jan. 24, 1898, for drainage and sub-grading work, from the following: —

P. & F. E. McCarthy, Roxbury, . . .	\$106,394 12
E. W. Everson & Co., Boston, . . .	99,826 00
McCusker Brothers, Waltham, . . .	99,004 00
T. H. & G. M. Bryne, Hyde Park, . . .	98,212 00
F. X. Saucier, Boston,	97,416 00
Warren Scharf Asphalt Company, Boston and New York,	97,286 80
Joseph D. Gennaro, Boston,	95,897 00
T. W. Kinser & Sons, Waltham,	95,530 00
Aab & Co., Waltham,	94,574 00
H. P. Nawn, Boston,	92,765 80

The contract was awarded to H. P. Nawn, and the work is rapidly progressing. The work under this contract consists in drainage work for removal of surface water, including pipe drains on timber foundations, outlets into river, chambers with tide-gates (the two latter on pile foundations), man-holes and catch-basins, and the furnishing in place of filling material obtained by dredging the river for roadways, walks and dikes. In connection with this work, it was

found advisable to carry forward the shore work, consisting in excavation, dredging and filling outside the dike and proposed shore line where necessary, and surfacing the slope down to low water with clean gravel. Two bids were received May 16 for this work, from Augustus B. Martin, \$47,325, and from H. P. Nawn and N. S. Brock, \$41,830. The contract was awarded to the latter. The estimated value of work done under these two contracts to October 31 is \$140,184.27.

Proposals were received March 21, 1898, from 14 parties, for furnishing loam and manure in storage piles and compost heaps, to be used later for surfacing purposes. Contracts were awarded to Thomas H. Gill for a portion of the loam asked for in the advertisement, and to Edward A. Janse for a portion of the manure. Under these contracts Mr. Gill furnished 10,956 cubic yards of loam for \$9,896.13, and Mr. Janse furnished 477.1 cords of manure for \$2,242.37.

The harbor lines, as recommended by the United States Harbor Line Commission of 1888, for this section of the river, required changing for a distance of about 1,300 feet, still retaining the 200 foot channel. This change, together with the lines for the entire section, as determined by this department, and the shore and drain outlet construction, were, after the approval of the Harbor and Land Commissioners, April 12, 1898, also approved by the United States War Department.

Fellsway, Fellsway East and West (Broadway Park, Somerville, to Middlesex Fells, Malden and Medford).—This parkway, begun Aug. 15, 1895, is now completed from the Mystic Avenue side of Broadway Park in Somerville to the Middlesex Fells Reservation: on the one hand, by Fellsway East, 3.28 miles, to the Bear's Den Entrance; on the other, by Fellsway West, 3.22 miles, to a junction at Forest Street with the south-west boundary road of the reservation, near the base of Pine Hill. Fellsway, from Mystic Avenue to place of division into Fellsway East and Fellsway West, is 2.18 miles in length, including the Middlesex Avenue bridge over Mystic River, which is 1,220 feet, or .23 of a mile, in length.

The section from Mystic Avenue to the Medford Branch Railroad was built under contract by Coleman Brothers ; the next section, extending to Pleasant Street in Malden and to Salem Street in Medford, thus including short lengths of Fellsway East and West, by Joseph D. Gennaro ; Fellsway West, from Salem Street to Forest Street, by Michael Tallent & Co. and by Coleman Brothers. Fellsway East, from Pleasant Street to the reservation, was completed in 1896 by McCusker Brothers. The total cost of construction, according to vouchers of this department, has been as follows : —

Previously reported : —

Construction (report of 1896), . . .	\$76,256 03	
Engineering and incidentals (report of 1896),	4,615 72	\$80,871 75
	<hr/>	
Construction (report of 1897), . . .	\$144,640 74	
Engineering and inspection (report of 1897),	3,429 00	148,069 74
	<hr/>	

For year ending Nov. 1, 1898 : —

Fellsway, balance of Coleman Brothers contract,	\$32,748 40	
Fellsway, balance of J. D. Gennaro's contract,	17,928 37	
Fellsway West, paid M. Tallent & Co., .	9,184 59	
Fellsway, Coleman Brothers contract, .	32,778 30	
Somerville and Medford, drainage, . .	4,000 00	
Miscellaneous,	1,723 81	
	<hr/>	
Total cost of construction,	\$98,363 47	
Engineering and inspection,	7,007 54	105,371 01
	<hr/>	
Total,		\$334,312 50

The final settlement of contract with Michael Tallent & Co. may somewhat modify the above figures. The total gives the cost of construction for the following lengths of parkways : —

	Miles.	Miles.
Fellsway,	2.18	
Deduct Middlesex Avenue bridge, . .	.23	
Length of constructed parkway,		1.95
Fellsway East,		1.10
Fellsway West,		1.04
		<hr/>
Total constructed parkway,		4.09

The cost of construction has been at the average rate of \$81,739 per mile. Fellsway, Mystic Avenue, Somerville, to Medford Branch Railroad, Medford, was completed Aug. 31, 1898; Medford Branch Railroad to Pleasant Street, Malden, and to Salem Street, Medford, June 30, 1898; Fellsway East, Pleasant Street, to Middlesex Fells, Sept. 30, 1896; Fellsway West, Salem Street to Forest Street, Nov. 8, 1898.

Incidental to the construction of this parkway has been the lowering of the grade of a portion, 950 feet in length, of Middlesex Avenue in Somerville. The excavation was done by the Boston & Maine Railroad without expense to the Commonwealth. Proposals for surfacing were received Aug. 29, 1898, from the following:—

Owen Cunningham & Son, Somerville,	.	.	.	\$4,110 00
Coleman Brothers, Charlestown,	.	.	.	3,550 00
Thomas H. Gill, Somerville,	.	.	.	3,126 00
McCusker Brothers, Waltham,	.	.	.	3,008 00
Martin Gill, Somerville,	.	.	.	2,292 00

The contract was awarded to Martin Gill, and completed Nov. 9, 1898, at a cost of \$2,988.08, or, including engineering and inspection, \$3,433.08.

The taking lines of Fellsway East were defined last year by stone bounds; this year some have been set on Fellsway and Fellsway West, and the work is still in progress.

The lighting is done under contract with the Welsbach Street Lighting Company. Fellsway has 86, Fellsway West 49, and Fellsway East 48, lights. These have been placed generally at intervals of 150 feet for parkway, with double roadway and on alternate sides, with additional lights at corners of intersecting streets. This arrangement secures the best results with the least number of lights, the effect of a well-lighted suburban street, and will permit the placing of additional lights, bringing them opposite to one another, when thought advisable. The care and maintenance is in charge of the Superintendent of the Middlesex Fells Reservation.

Lynnway. — The problems of connecting Revere Beach with Lynn, as a connecting link to the north shore and Lynn Woods, and Lynn Woods with the Middlesex Fells, have received some study and general investigations. Plans and estimates for portions have been made as preliminary steps to a report and more satisfactory understanding of the questions involved.

Mystic Valley Parkway (High Street, Medford, to Middlesex Fells Reservation, Winchester). — The attention of the department has been given mainly to the construction of entrances, setting of stone bounds, and suggestions on maintenance; also to the preparation of topographical maps and preliminary plans for an extension down the Mystic River to Fellsway.

The distances from Fellsway, up the Mystic River, to the Middlesex Fells Reservation, are as follows: —

	Miles.
From Fellsway, up thread of Mystic River, to High Street, beginning of the Mystic Valley Drive,	4.96
Mystic Valley Drive, High Street, Medford, to Bacon Street, Winchester (built),	1.86
Along Bacon Street (public street), . . . . .	.17
Mystic Valley Drive, Bacon Street to Main Street, Winchester (built), . . . . .	.57
Main Street to Middlesex Fells Reservation (not built), . . . . .	.46
Total distance,	8.02

Neponset River. — Topographical surveys and maps have been made of the Neponset River and banks, for a distance of 7.98 miles, from its outlet up to Paul's Bridge in Milton, and from thence 1.08 miles to the Blue Hills Reservation. These surveys cover an area of 703 acres.

Quincy Parkway. — Work has been mainly of a preliminary character, — preliminary plans of possible routes-land areas and estimates. A topographical survey, over an area of 350 acres, has been made of Squantum shore.

Revere Beach Parkway (Revere Beach, Revere, to Fellsway, Malden). — Construction has continued during the year on this parkway, between Eliot Circle and Campbell

Avenue, for a distance of .60 of a mile. By mutual consent the work of sub-grading, being done by John J. O'Brien & Co., was stopped May 10, 1898. The work done during the year under this contract amounted to \$17,890.78; \$2,300 was deducted from the above amount, as compensation to the Commonwealth for delay by the contractors in completion of the work.

Proposals for grading and ballasting on Ocean Avenue Extension and Revere Beach Parkway were received March 21, 1898, from the following:—

McCusker Brothers, Waltham,	\$8,500 00
Thomas A. Martin, Lowell,	7,360 00
W. H. Mague, West Newton,	5,100 00
P. H. Byron, West Medford,	4,570 00

This contract was awarded to P. H. Byron, and was completed, April 30, at a cost of \$3,437.60. Bids for grading, drainage, and a small area of surfacing work from Eliot Circle, of the Beach Reservation, to and across the entrance of the street being built by the Massachusetts State Highway Commission, were received Aug. 22, 1898, from the following:—

Walter R. Brown, Lowell,	\$25,055 00
Thomas H. Gill, Somerville,	23,334 25
Mirick & Wentworth, Malden,	22,715 00
Richard Falvey, Somerville,	21,465 00
Martin Gill & Co., Somerville,	20,723 00
Joseph D. Gennaro, Boston,	18,896 00
The B. D. Pierce, Jr., Co., Bridgeport, Conn., .	18,384 00
McCusker Brothers, Waltham,	17,842 50
Geo. A. Lancaster, Revere,	17,542 50
Cogan Brothers & Forschner, Atlantic, . . .	16,943 00
Owen Cunningham & Son, Somerville, . . .	16,150 00
James J. Welch & Co., Salem,	15,636 00
Thomas Hurley, Lynn,	15,605 50
Johnston, Harries & Letteney, Boston, . . .	14,877 75
John A. Whittemore's Sons, Boston,	14,472 50

The contract was awarded to the latter, and the work was started September 9. Work to the estimated value of \$4,097.95 has been done to October 31.

Surveys, plans and estimates are in progress for a proposed extension through Revere, Chelsea and Everett, to a connection with Fellsway, near Wellington in Medford, a distance from Eliot Circle of 5 miles.

Spy Pond Parkway. — Topographical maps have been made of the country between Mystic River in Medford and Fresh Pond in Cambridge, and of the shores of Spy Pond, Little Pond and Little River in Arlington, covering an area of 597 acres.

Winthrop Parkway. — Several plans and estimates have been made, for investigations and studies, of routes from Revere Beach Reservation to Great Head in Winthrop.

Woburn Parkway. — Investigations and estimates for construction were made, in January, for a report on a northerly extension of Mystic Valley Parkway, 8 miles in length, forming a circuit in Winchester and Woburn.

RESERVATIONS.

Beaver Brook. — A small amount of work, at a cost of \$145, has been done, under direction of this department, by the Superintendent, in rebuilding the old retaining wall of the upper dam. The boundaries are now defined by stone bounds.

Blue Hills. — Very little has been done in this reservation by this department, — a topographical survey at Pine Tree Brook Entrance, along Randolph Avenue, several conveyance and land plans, survey for determining the lines of Randolph Avenue, and taking plans for portions of Hillside Avenue and Forest Street.

Charles River. — The Metropolitan Water Board has laid a 20-inch water main across the reservation and under the river from St. James Street, Newton, to Irving Street, Watertown.

Taking and land plans have been prepared from Galen Street, Watertown, covering a length of 10.73 miles of the river, in Watertown, Newton, Waltham and Wellesley, to the Hemlock Gorge Reservation at Newton Upper Falls. A taking plan has also been made of a portion of the Long-



MYSTIC RIVER, MEDFORD.

THE HELIOTYPE PRINTING CO., BOSTON

fellow Meadows for the Speedway Section and of Willis Court in Cambridge for an entrance from Mt. Auburn Street. These, with other takings, give an area of 555.26 acres as the total lands owned by the Commonwealth as park reservations along the Charles River. Topographical surveys and maps have been made from the Hemlock Gorge Reservation up the river to Ames Street, near Mother Brook, in Dedham. The area of this survey was 700 acres, omitting portions of the water works reservations not comprised in the field work. The river banks are now well mapped in sufficient detail, generally, for preliminary studies and estimates, for a distance of 23.5 miles up from Essex Street bridge at Cottage Farm, except for some portions below Watertown not included in the takings.

Middlesex Fells. — Proposals were received Dec. 6, 1897, for building the Bear Hill Entrance road to the reservation from Marble Street, Stoneham, from the following: —

Adams & Shipper, Holliston,	\$10,111 30
S. W. Bowker, Reading,	6,379 50
F. X. Saucier, Boston,	6,345 50
J. F. Elkins & Co., Somerville,	5,962 00
McCusker Brothers, Waltham,	5,640 50
David Scanlon, West Medford,	5,504 00
Thomas Quigley, Winchester,	5,190 60
John A. Whittemore's Sons, Boston,	4,805 00
Thomas H. Meegan, Stoneham,	4,321 50
Wason & Libbey, Marlborough,	4,137 00

The contract was awarded to the latter, and completed June 15, 1898, at a cost of \$4,694.99, and \$549.72 for engineering and inspection; total, \$5,244.71. This work involved the building of .42 of a mile of gravel road, 20 feet wide, mostly on fill, and 800 lineal feet of open, and 60 lineal feet of covered, culvert. The cost of the culvert item was nearly one-half of the total.

The survey, map and plan work includes taking plan of certain streets; general map of country south-west of reservation; topographical survey and map of Whitmore Brook, covering an area of 50 acres, for the study of a possible

route for a connection from Mystic Valley Parkway to the reservation; construction plan for a portion of Hemlock Pool Road; and a revision and completion of construction plans and estimates for boundary road, 2.22 miles long, from Forest Street, at end of Fellsway West, Medford, to Mt. Vernon Street, at end of proposed northern extension of Mystic Valley Parkway, Winchester. All boundaries are defined by stone bounds.

Mother Brook. — A topographical survey and map, covering an area of 328 acres, has just been completed of Mother Brook and shores from Neponset River to Charles River.

Revere Beach. — This reservation from the southern end, or Eliot Circle, is completed to Revere Street, a distance of 1.19 miles. The popularity of this short curve of seashore and beach, as a public resort for the dwellers of the crowded districts of Boston, only twenty minutes distant by railroad ride, and for the inhabitants of the district, has been conclusively proved by the large number of visitors of the past season. The remaining portion of the reservation, north of Revere Street, is 1.52 miles in length. Preliminary estimates of cost of construction for this unimproved section, based on several suggested sections, have been made.

The total cost of construction of completed portion, according to vouchers of this department, has been substantially as follows, omitting maintenance and cost of structures built under supervision of architect.

Previously reported:—		
Construction (report of 1897),	\$68,623 71	
Engineering and inspection (report of 1897),	2,489 50	
	<hr/>	\$71,113 21
Year ending Nov. 1, 1898:—		
Balance, J. J. O'Brien & Co.,	\$1,050 00	
Contract, T. Stuart & Son,	8,048 90	
Balance, Murdock Parlor Grate Company,	3,758 70	
Ocean Avenue Extension,	2,958 67	
Miscellaneous,	1,812 80	
	<hr/>	
Total for construction,	\$17,629 07	
Engineering and inspection,	1,193 03	
	<hr/>	18,822 10
	<hr/>	
Total,		\$89,935 31

Stony Brook.—The reservation road, now called Turtle Pond Road, extending 2 miles through the interior of the reservation, from Washington Street in Boston to near West Glenwood Avenue Entrance in Hyde Park, was completed Sept. 1, 1898, under contract with Owen Cunningham & Son. This road has a gravel surface, and is 26 feet in width. Great difficulty was experienced in obtaining surfacing gravel of a suitable quality, increasing very materially the cost. The total cost has been as follows:—

Previously reported:—

Construction (report of 1897),	\$2,042 60	
Engineering and inspection (report of 1897),	173 60	
	<hr/>	\$2,216 20

Year ending Nov. 1, 1898:—

Balance, Owen Cunningham & Son,	\$26,480 32	
Miscellaneous,	63 15	
	<hr/>	
Total for construction,	\$26,543 47	
Engineering and inspection,	2,341 12	
	<hr/>	28,884 59
		<hr/>
Total,		\$31,100 79

GENERAL.

The defining of boundaries of the various takings with stone monuments is now nearly completed. The number set during the year has been as follows: Blue Hills Parkway, including Harland Street Entrance, 75; Fellsway, 40; Mystic Valley Parkway, 38; Beaver Brook Reservation, 18; Charles River, Cambridge Street, Brighton, to Weston Bridge, Newton and Wellesley, 240; Hemlock Gorge, 14; Middlesex Fells, including Bear Hill Entrance, 130; Revere Beach Reservation, 14; total, 569. Topographical surveys have generally been made with plane table and stadia, maps for preliminary studies have been drawn to a scale of 100 feet to an inch, and plans for construction to a scale of 40 feet to an inch. There have been 3,630 acres covered by these surveys during the year, at a cost of \$4,159.01, from Table III, and \$264.04 from pay roll of November, 1898,—an average cost, omitting incidental expenses, of \$1.22 an

acre. Engineering and inspection for construction, omitting travelling and other incidental expenses, has averaged 5.8 per cent.

In closing this report, I wish to acknowledge the conscientious and efficient assistance of the employees in this department.

Respectfully submitted,

WM. T. PIERCE,
Engineer.

TABLE I. — *Summary of Maps and Plans prepared during Year ending Nov. 1, 1898, omitting Blue and Other Prints.*

	Abandonment and Conveyance.	Construction.	Copies.	Entrances.	General.	Land and Settle- ment.	Restriction.	Takings.	Topographical.	Office Working Plans.	Totals.
Parkways:—											
Blue Hills,	-	6	1	1	1	2	-	1	-	7	19
Speedway (Charles River Res- ervation),	2	14	1	-	-	-	-	-	-	3	20
Fellsway (Fellsway East, Fellsway West),	5	3	16	6	1	4	3	1	2	6	47
Lynnway,	-	1	20	-	3	-	-	3	-	-	27
Mystic Valley,	2	-	2	1	1	-	-	2	3	12	23
Neponset River,	-	-	6	-	1	2	-	14	6	15	44
Quincy,	-	-	2	-	3	-	-	6	1	12	24
Revere Beach,	3	14	5	-	1	6	-	3	1	13	46
Spy Pond,	-	-	-	-	1	-	-	-	3	10	14
Winthrop,	-	-	-	-	3	-	-	-	-	1	4
Parkway totals,	12	38	53	8	15	14	3	30	16	79	268
Reservations:—											
Beaver Brook,	-	-	-	-	-	-	-	-	1	3	4
Blue Hills,	2	-	2	1	-	3	-	2	1	4	15
Charles River,	2	1	39	-	1	41	-	18	5	41	148
Hemlock Gorge,	-	-	-	-	-	1	-	-	-	-	1
King's Beach,	-	-	-	-	-	1	-	-	-	1	2
Middlesex Fells,	2	10	7	-	2	3	-	3	2	17	46
Mother Brook,	-	-	1	-	-	-	-	-	-	3	4
Revere Beach,	4	4	14	-	1	12	-	4	-	13	52
Stony Brook,	-	-	1	-	-	6	-	-	-	-	7
Reservation totals,	10	15	64	1	4	67	-	27	9	82	279
Grand totals,	22	53	117	9	19	81	3	57	25	161	547

NOTE. — There are now 1,576 plans recorded as on file in this office.

Spy Pond,	-	-	-	-	551 54	-	-	41 50	7 78	600 82	600 82
Turtle Pond Road,	-	-	-	-	-	-	-	-	-	-	-
Stony Brook Res- ervation,	26,543 47	-	-	26,543 47	-	-	20 00	70 10	108 11	2,539 33	29,082 80
Whitmore Brook,	-	-	-	-	29 68	-	-	-	-	29 68	29 68
Winthrop,	-	-	-	-	324 59	-	-	16 00	4 00	344 59	344 59
Parkway totals,	\$322,163 57	\$242 15	\$1,078 57	\$1,613 56	\$325,097 85	-	\$255 71	\$1,022 05	\$631 98	\$29,685 16	\$354,783 01
Reservations:—											
Beaver Brook,	-	-	-	\$145 00	\$145 00	-	-	\$8 25	\$11 74	\$242 39	\$387 39
Blue Hills,	-	-	-	-	-	-	-	45 50	7 02	434 79	434 79
Charles River,	\$468 03	\$1,108 86	\$10 92	-	1,587 81	-	-	531 55	150 90	7,785 21	9,373 02
Hemlock Gorge,	-	-	-	-	-	-	-	-	24	50 47	50 47
King's Beach,	-	-	-	-	-	-	-	-	1 35	19 85	19 85
Middlesex Fells,	4,816 04	-	-	-	4,816 04	-	-	59 00	51 63	1,922 14	6,738 18
Mother Brook,	-	-	-	-	-	-	-	-	8 15	472 60	472 60
Revere Beach,	17,558 32	70 75	83 50	47 06	17,759 63	-	\$8 16	35 00	31 67	1,894 50	19,654 13
Stony Brook,	-	-	-	-	-	-	-	-	05	111 15	111 15
Reservation totals,	\$22,842 39	\$1,179 61	\$94 42	\$192 06	\$24,308 48	-	\$8 16	\$679 30	\$262 75	\$12,933 10	\$37,241 58
Grand totals,	\$345,005 96	\$1,421 76	\$1,172 99	\$1,805 62	\$349,406 33	\$507 53	\$1,556 38	\$1,701 35	\$894 73	\$47,133 04	\$396,539 37

NOTE.— Engineering and surveying totals include \$386.08 paid to local surveyors.

TABLE III. — *Summary of Engineering, Surveying and Clerical Work.*

	Abandonments, Conveyances, etc.	Boundaries, — Verification, Staking and Monuments.	Construction, Incidental to Actual.	Construction, Preliminary to.	General.	Land and Settle- ments, — Sur- veys and Plans.	Maintenance.	Restrictions, — Surveys and Plans for.	Takings.	Topographical.	Totals.
Parkways: —											
Blue Hills,	\$17 90	\$174 65	\$1,029 85	\$266 75	\$1 00	\$46 20	\$25 70	\$6 85	\$17 70	-	\$1,586 60
Fellsway, Fellsway East and West, . . .	31 15	145 77	7,007 54	112 40	90 70	29 90	44 40	68 80	52 63	\$5 90	7,589 19
Lynnway,	-	-	-	37 90	255 10	-	-	-	-	-	293 00
Middlesex Avenue (Fellsway),	-	-	445 00	-	-	-	-	-	-	-	445 00
Mystic Valley,	2 00	298 80	209 70	95 30	41 00	21 70	35 50	-	234 97	598 63	1,337 60
Neponset River,	-	13 10	-	92 73	54 05	44 77	-	-	148 30	1,059 61	1,412 56
Quincy,	-	30 65	-	74 40	25 90	-	-	-	633 18	373 08	1,137 21
Revere Beach,	46 90	10 23	2,294 59	253 09	27 52	600 20	-	-	1,022 00	126 75	4,381 28
Speedway (Charles River),	40 70	-	4,812 75	399 63	87 46	238 75	-	-	28 00	50 65	5,657 99
Spy Pond,	-	-	-	-	22 20	-	-	-	-	529 34	551 54
Turtle Pond Road (Stony Brook), . . .	-	-	2,341 12	-	-	-	-	-	-	-	2,341 12
Whitmore Brook,	-	-	-	29 68	-	-	-	-	-	-	29 68
Winthrop,	-	-	-	61 10	26 72	-	-	-	236 77	-	324 59
Parkway totals,	\$138 65	\$673 20	\$18,140 55	\$1,423 03	\$631 65	\$981 52	\$105 60	\$75 65	\$2,373 55	\$2,743 96	\$27,287 36

Reservations: —											
Beaver Brook,	-	\$142 35	\$12 50	\$20 40	\$7 50	-	\$5 00	-	-	\$34 65	\$222 40
Blue Hills,	\$45 50	170 27	-	29 30	6 90	\$46 85	-	-	\$56 25	27 20	382 27
Charles River,	117 80	848 30	228 55	584 70	112 80	1,306 52	-	\$2 00	3,050 99	842 85	7,094 51
Hemlock Gorge,	-	46 83	-	-	-	3 40	-	-	-	-	50 23
King's Beach,	-	-	-	-	-	18 50	-	-	-	-	18 50
Middlesex Fells,	40 20	401 20	588 82	362 67	73 00	65 45	5 00	-	215 30	56 40	1,808 04
Mother Brook,	-	-	-	-	-	-	-	-	-	464 45	464 45
Revere Beach,	33 15	64 91	1,193 03	115 95	89 60	302 98	10 30	-	-	-	1,809 92
Stony Brook,	-	-	-	-	-	111 10	-	-	-	-	111 10
Reservation totals,	\$236 65	\$1,673 86	\$2,022 90	\$1,113 02	\$289 80	\$1,854 80	\$20 30	\$2 00	\$3,322 54	\$1,425 55	\$11,961 42
Miscellaneous,	-	-	-	-	580 00	-	-	-	-	-	580 00
Grand totals,	\$375 30	\$2,347 06	\$20,163 45	\$2,536 05	\$1,501 45	\$2,836 32	\$125 90	\$77 65	\$5,696 09	\$4,169 51	\$39,828 78

Grading (cubic yard) :—

Earth excavation,	21	32	25	22	28	27	40	\$0 25	32	27	-	\$0 50	18	25	40	-	30
Rock excavation,	-	-	-	1 25	1 00	-	-	-	-	-	-	-	1 00	1 70	-	-	-
Earth filling,	43	53	48	-	-	-	35	83 ³	40	52 ²	-	-	35	-	35	-	1 00
Rock filling,	-	70	-	-	-	-	-	-	-	-	-	-	-	40 ⁴	-	-	-
Gutters :—																	
Artificial stone (lineal foot),	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	-
Cobble stone (square yard),	-	-	-	-	-	-	-	-	-	-	-	-	-	35	-	-	-
Loam, furnishing of (cubic yard),	80	57	-	-	60	1 00	-	-	-	-	\$0 89 ¹ ₄	-	-	-	50	-	40
Manure (cord),	-	-	-	-	-	-	-	-	-	-	4 70	-	-	-	-	-	-
Masonry (cubic yard) :—																	
Brick,	12 00	12 00	14 00	13 00	12 50	12 00	-	-	14 00	13 00	-	-	-	-	12 00	-	12 00
Concrete,	-	-	-	-	-	-	5 00	-	-	5 00	-	-	-	-	-	-	-
Rubble, dry,	4 50	4 00	3 50	3 90	4 90	-	-	-	-	-	-	-	3 25	2 50	-	-	-
Rubble, pointed,	-	-	3 50	-	3 50	-	-	-	-	-	-	-	-	-	-	-	-
Spruce piles (lineal foot),	-	-	-	-	-	-	-	-	-	18	-	-	-	-	-	-	-
Surfacing (square yard) :—																	
Broken stone,	47	29	48	30	39	-	-	-	-	-	-	-	-	-	55	-	50
Gravel roadway,	-	-	-	-	-	-	-	-	-	-	-	-	-	1 40 ¹	-	-	-
Gravel walk,	06	16	16	-	-	15	-	-	-	-	-	-	-	10	25	-	20
Loam,	08	07	08 ¹ ₂	07 ³ ₄	07	-	-	-	08	-	-	-	-	07	-	-	-
Timber (1,000 feet B. M.),	-	20 00	-	-	-	-	20 00	-	-	22 50	-	-	-	20 00	-	-	-

Contract No. 25, dike surfacing with peat, \$0.40 a cubic yard. Contract No. 29, gravel for filling and shore surfacing, \$50 a cubic yard. Contract No. 32, road foundation, 8 inches of quarry chips, and surfacing, 4 inches of broken stone, \$0.41 a square yard. Contract No. 21, clearing and grubbing, \$100 an acre.

¹ Price per cubic yard, haul 2 miles.

² Underdrain with gravel and stone backfilling

³ Filling for dike, \$0.59.

⁴ Underdrain at \$0.55.

⁵ Gravel for ballast.

⁶ Underdrain at \$0.65.

⁷ In storage piles.

⁸ Double strength.

TABLE V. — *Approximate Distances along Rivers, as determined from Topographical Surveys.**Charles River.*

Essex Street Bridge, at Cottage Farm, to :—

	Miles.
Cambridge Street, Brighton, or River Street, Cambridge, . . . . .	.78
North Harvard Street, Brighton, or Boylston Street Cambridge, .	1.58
Arsenal Street, Brighton and Watertown,	3.60
North Beacon Street, Brighton and Watertown,	4.25
Galen Street, Watertown,	5.76
Bemis Street, Newton, or Bridge Street, Watertown,	6.87
Farwell Street, Waltham,	7.68
Newton Street, Waltham,	8.37
Elm Street, Waltham,	8.59
Moody Street, Waltham,	8.82
Prospect Street, Waltham,	9.30
Weston Bridge, or Commonwealth Avenue, Newton,	11.73
Concord Street, Newton, or East Newton Street, Weston,	13.33
Washington Street, Newton and Wellesley,	14.38
Walnut Street, Wellesley, or Wales Street, Newton,	14.77
Hemlock Gorge Reservation, Boylston Street, Newton, or Worcester Street, Wellesley,	16.49
Elliot Street, Newton, or Webster Street, Wellesley,	16.83
Needham Street, Newton, or Highland Avenue, Needham,	17.68
Nahantan Street, Newton, or Kendrick Avenue, Needham,	18.60
Vine Rock Bridge, Spring Street, Newton, or Bridge Street, Dedham,	21.88
Mother Brook, Dedham,	23.18
Ames Street, Dedham,	23.50

*Mother Brook.*Bridge Street Bridge, Hyde Park, across the Neponset River, at
entrance of Mother Brook, to :—

	Miles.
Hyde Park Avenue, Hyde Park, . . . . .	.15
Glenwood Avenue, Hyde Park, . . . . .	.38
Knight Street, Hyde Park, . . . . .	.76
West River Street, Hyde Park, . . . . .	.93
Mill Lane, Dedham,	2.06
Bussey Street, Dedham,	2.37
Maverick Street, Dedham,	2.66
Washington Street, Dedham,	3.20
East Street, Dedham,	3.24
Centre of Charles River, Dedham,	3.63

Mystic River.

Fellsway, Middlesex Avenue Bridge, to :—

	Miles.
Craddock Bridge, Medford,	2.66
Winthrop Street, Medford,	3.13
Auburn Street, Medford,	3.63
Boston Avenue, Somerville and Medford,	3.99
River Street, Arlington, or Harvard Avenue, Medford,	4.52
High Street, Medford, or Medford Street, Arlington,	4.96

Neponset River.

Railroad Bridge, at Neponset Station, near mouth of river, to :—

	Miles.
Neponset Avenue, Boston, or Hancock Street, Quincy, . . . . .	.10
Granite Avenue, Boston and Milton,	1.05
Adams Street, Boston and Milton,	2.79
Central Avenue, Boston and Milton,	3.07
Blue Hill Avenue (Mattapan), Boston, or Blue Hills Parkway, Milton,	4.39
Fairmount Avenue, Hyde Park,	6.28
Bridge Street, Hyde Park,	6.51
Milton Street (Paul's Bridge), Hyde Park and Milton,	7.98
Green Lodge Street, Dedham and Canton,	11.25

FINANCIAL STATEMENT.

DEC. 1, 1897, TO DEC. 1, 1898.

Metropolitan Parks Loan,	\$5,700,000 00
Receipts for sales, etc.,	57,007 99
	<hr/> \$5,757,007 99

Expenditures.

Blue Hills Reservation : —

Land,	\$8,274 50
Labor,	9,100 05
Police,	3,484 84
Engineering pay roll,	382 27
Engineering expenses,	60 52
Landscape Architects,	
fees,	600 00
Landscape Architects,	
expenses,	136 65
Legal,	135 13
Superintendent's	
house,	5,071 92
Repairs of roads,	1,377 94
Stable,	1,259 04
Keep of horses,	660 88
Lunch and bicycle	
stand,	964 87
Tools, materials, etc.,	304 26
Water rates,	207 71
Telephones,	168 80
Repairs,	131 45
Horses,	170 00
Sanitaries,	118 00
Land experts,	72 50
Travelling expenses,	62 56
Lumber, drain pipe,	
etc.,	54 28
Wagons, etc.,	49 98
Harnesses, etc.,	57 63
Photographs,	36 38

Am'ts carried forward, \$32,942 16

\$5,757,007 99

<i>Am'ts brought forward,</i>	\$32,942 16	\$5,757,007 99
Cutting and storing		
hay,	450 10	
Bronze tablet, Adams		
land,	58 75	
Stone watering trough,	40 00	
Manure,	36 00	
Paints,	15 14	
Stationery,	10 28	
Charges for extin-		
guisher,	7 95	
Maps, plans, etc., .	1 60	
Miscellaneous, . . .	44 97	
	<hr/>	\$33,606 95

Middlesex Fells Reservation:—

Land,	\$40,815 10		
Labor,	8,713 82		
Police,	4,102 93		
Engineering, pay rolls,	1,914 09		
Engineering, expenses,	137 40		
Landscape Architects,			
fees,	750 00		
Landscape Architects,			
expenses,	330 94		
Legal,	174 04		
Repairs of roads, . .	5,335 74		
City of Medford, re-			
pairs of streets, . .	3,000 00		
Lumber, drain pipe,			
etc.,	447 54		
Keep of horses, . . .	373 48		
Tools, materials, etc., .	506 97		
Wagons, etc.,	281 66		
Paints,	241 01		
Road roller,	191 25		
Repairs,	188 22		
Lighting,	187 20		
Land experts,	180 00		
Travelling expenses, .	166 76		
Veterinary services, .	100 00		
Telephones,	122 70		
Harnesses, etc., . . .	72 78		
Photographs,	50 25		
Horse,	50 00		
Water rates,	33 00		
Flags,	16 00		
<i>Am'ts carried forward,</i>	<hr/> \$68,462 88	<hr/> \$33,606 95	<hr/> \$5,757,007 99

<i>Am'ts brought forward,</i>	\$68,462 88	\$33,606 95	\$5,757,007 99
Stationery, . . .	11 63		
Grass seed, . . .	10 70		
Moulding, . . .	9 30		
Window shades, . .	9 00		
Maps, plans, etc., .	2 23		
Miscellaneous, . .	67 00		
	<hr/>	68,572 74	

Revere Beach Reservation :—

Land,	\$260,541 98		
Labor,	3,625 21		
Police,	9,042 19		
Engineering, pay rolls,	1,809 92		
Engineering, expenses,	135 58		
Landscape Architects,			
fees,	1,500 00		
Landscape Architects,			
expenses, . . .	26 67		
Legal,	690 49		
Bath-house, pay roll, .	13,089 17		
Bath-house, expenses, .	8,120 73		
Additional bath-rooms,	1,260 00		
Concreting roof of sub-			
ways,	309 36		
Removing <i>débris</i> at			
bath-house, . .	476 00		
Completion of Revere			
Beach Driveway, .	8,056 41		
Land experts, . . .	4,311 00		
Edgestones, . . .	3,758 70		
Work on Ocean Ave-			
nue extension, . .	2,958 67		
Eben S. Curtis (chapter			
62, Resolves 1898), .	2,500 00		
William T. Eaton			
(chapter 80, Re-			
solves 1898), . .	1,374 00		
Electrical contractor, .	1,860 11		
Lighting driveway, .	1,545 25		
Relaying water main, .	1,263 00		
Repairs of roads, . .	853 50		
Moving Superintend-			
ent's house, . . .	500 00		
Watering carts, . . .	335 35		
Watering driveway, .	343 34		
Work on Cove and Re-			
vere streets, . . .	273 70		
	<hr/>		
<i>Am'ts carried forward,</i>	\$330,560 33	\$102,179 69	\$5,757,007 99

Am'ts brought forward, \$330,560 33 \$102,179 69 \$5,757,007 99

E K. Turner, engineer- ing,	250 00
Catch-basins, Beach and Revere streets, .	256 50
Moving police station, Shelter at Revere Street,	397 00
Keep of horses, . . .	325 00
Water rates,	271 05
Travelling expenses, .	166 38
Tools, materials, etc., .	189 65
Canvas coverings, . .	178 16
Fence, police station, .	189 70
Telephones,	121 75
Repairs,	150 48
Heater, Superintend- ent's house,	141 74
Electrical engineer, .	175 00
Fence, Superintend- ent's house,	152 60
Wagons, etc.,	145 00
Paints,	123 52
Loam,	86 27
Lumber,	78 30
Signs,	54 64
Stationery,	33 25
Rubbish barrels, . . .	30 48
Repairing subways and fountains,	34 80
Bicycle racks,	53 00
Polishing fountains, .	31 58
Roof bicycle shed, . .	30 20
Labor at police station,	29 60
Bicycle checks, . . .	26 42
Bulkhead at police sta- tion,	24 16
Fence,	20 88
Photographs,	18 00
Moving catch-basins, .	20 38
Iron gate,	17 72
Granite roller,	16 00
Grass seed,	14 50
Flag,	13 35
Maps, plans, etc., . .	9 00
Miscellaneous,	3 10
	210 85

334,650 34

Am'ts carried forward, . . \$436,830 03 \$5,757,007 99

Am'ts brought forward, . . . \$436,830 03 \$5,757,007 99

Stony Brook Reservation : —

Land,	\$60,611 81
Labor,	5,710 79
Police,	1,172 25
Engineering, pay rolls,	111 10
Engineering, expenses,	31 65
Landscape architects,	
fees,	550 00
Landscape architects,	
expenses,	106 34
Legal,	144 80
Superintendent's house,	5,114 56
Land experts, . . .	4,928 22
Keep of horses, . .	214 61
Repairs of roads, .	189 83
Tools, materials, etc., .	141 27
Fire extinguishers, .	108 75
Wagons,	92 00
Harnesses, etc., . .	93 69
Water rates, . . .	91 30
Fence,	75 87
Horse,	75 00
Painting office, . .	64 25
Lumber, etc., . . .	48 27
Travelling expenses, .	44 05
Repairs,	39 86
Stable fittings, . .	23 43
Manure,	25 00
Grass seed,	18 62
Signs,	17 55
Flag,	10 15
Paints,	6 89
Stationery,	5 12
Lanterns for pond, .	11 90
Miscellaneous, . . .	31 05

79,909 98

Beaver Brook Reservation : —

Labor,	\$1,311 50
Police, supplies, . .	53 50
Engineering, pay roll,	222 40
Engineering, expenses,	19 99
Landscape Architects,	
fees,	100 00
Landscape Architects,	
expenses,	59 23
Repairs on dam, . .	145 00

Am'ts carried forward, \$1,911 62 \$516,740 01 \$5,757,007 99

<i>Am'ts brought forward,</i>	\$1,911 62	\$516,740 01	\$5,757,007 99
Keep of horse, . . .	126 47		
Repairs, . . .	117 88		
Furnace, . . .	96 00		
Shrubs, . . .	59 25		
Lumber, etc., . . .	51 28		
Paints, . . .	46 72		
Tools, materials, etc., .	45 21		
Lanterns for pond, .	23 85		
Loam, . . .	17 00		
Flag, . . .	11 65		
Stationery, . . .	6 88		
Harnesses, etc., . . .	4 83		
Travelling expenses, .	3 90		
Grass seed, . . .	2 35		
Maps, plans, etc., .	1 50		
Water rates, . . .	4 50		
Miscellaneous, . . .	23 30		
	<hr/>	2,554 19	

Hemlock Gorge Reservation:—

Land, . . .	\$300 00		
Labor, . . .	942 95		
Police, . . .	138 25		
Engineering, pay roll,	50 23		
Engineering, expenses,	24		
Landscape Architects,			
fees, . . .	50 00		
Landscape Architects,			
expenses, . . .	1 87		
Legal, . . .	146 94		
Land experts, . . .	250 00		
Water rates, . . .	122 17		
Sanitaries, . . .	108 27		
Lumber, etc., . . .	36 34		
Painting fence and			
bridge, . . .	26 00		
Drinking fountain, .	20 25		
Repairs, . . .	17 85		
Paints, . . .	17 50		
Tools, etc., . . .	17 21		
Travelling expenses, .	11 00		
Flag, . . .	9 00		
Lanterns for pond, .	7 95		
Stationery, . . .	6 87		
Miscellaneous, . . .	11 83		
	<hr/>	2,292 72	

<i>Am'ts carried forward,</i>		\$521,586 92	\$5,757,007 99
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Am'ts brought forward, . . . \$521,586 92 \$5,757,007 99

Charles River Reservation:—

Land,	\$332,405 84
Labor,	130 17
Police,	7 50
Engineering, pay roll,	7,082 10
Engineering, expenses,	829 97
Landscape Architects,	
fees,	1,350 00
Landscape Architects,	
expenses,	596 26
Legal,	5,307 36
Land experts, . . .	16,506 60
Stone bounds, . . .	931 17
Advertising for pro-	
posals,	302 77
Grading and fencing, .	237 05
Photographs, . . .	162 36
Frames and grates, .	148 91
Maps, plans, etc., .	107 32
Rent of land, . . .	100 00
Expenses of auctions, .	42 50
Gravel,	41 50
Water rates, . . .	36 49
Travelling expenses, .	21 50
Test, Speedway section,	28 00
Tools, materials, etc., .	18 00
Signs,	10 92
Repairs,	4 90
Miscellaneous, . . .	26 68

366,435 87

West Roxbury Parkway:—

Land,	\$500 00
Legal,	5 00

505 00

King's Beach Reservation:—

Land,	\$9,629 42
Engineering, pay roll,	18 50
Engineering, expenses, .	1 35
Legal,	35 93
Cleaning and grading,	500 00
Expense of auction, .	25 00
Land experts, . . .	15 00

10,225 20

Am'ts carried forward, . . . \$898,752 99 \$5,757,007 99

Am'ts brought forward, . . . \$898,752 99 \$5,757 007 99

General expense:—

Engineering, pay rolls,	\$754 45
Engineering, expenses,	1,292 28
Landscape Architects,	
fees,	1,500 00
Landscape Architects,	
expenses,	676 30
Legal,	2,907 49
Claim department, .	1,776 66
Supervisor of construc-	
tion,	624 99
Salaries, general office,	5,932 90
Rent,	1,150 02
Stationery,	534 16
Maps, plans, etc., .	497 92
Office expenses, . .	932 87
Travelling expenses, .	264 51
Land experts, . . .	200 00
Auditing accounts, .	100 00
Telephone,	120 41
Photographs, . . .	99 75
Moving,	91 50
Typewriter,	90 00
Repairs,	13 99
Miscellaneous, . . .	20 85

19,581 05

\$918,334 04

Amount charged to Dec. 1, 1897, . 3,527,450 42

\$4,445,784 46

Amounts reserved by Auditor, . . 296,574 40

4,742,358 86

Balance in hands of State Treasurer,. . . \$1,014,649 13

Metropolitan Parks Loan, Series II., . . . \$2,200,000 00

Receipts for sales, etc., 6,099 00

\$2,206,099 00

Expenditures.

Blue Hills Parkway:—

Land,	\$20,936 00
Labor,	139 84
Police,	417 50
Engineering, pay rolls,	1,586 60

Am'ts carried forward, \$23,079 94

\$2,206,099 00

<i>Am'ts brought forward,</i>	\$23,079 94	\$2,206,099 00
Engineering, expenses,	150 42	
Landscape Architects,		
fees,	150 00	
Landscape Architects,		
expenses,	24 82	
Legal,	123 61	
Construction,	14,590 12	
Improvements on Can-		
ton Avenue,	1,520 00	
Repairs of roads,	763 25	
Land experts,	800 00	
Watering,	550 00	
Cutting and moving		
trees,	159 55	
Bound stones,	139 90	
Shrubs,	139 25	
Grass seed,	58 82	
Frames and grates,	24 77	
Signs,	18 00	
Water rates,	8 35	
Photographs,	9 00	
Travelling expenses,	4 00	
Miscellaneous,	6 00	
	<hr/>	\$42 319 80

Middlesex Fells Parkway:—

Land,	\$43,420 09		
Labor,	75 00		
Police,	1,340 38		
Engineering, pay rolls,	8,034 19		
Engineering, expenses,	853 05		
Landscape Architects,			
fees,	250 00		
Landscape Architects,			
expenses,	140 76		
Legal,	333 31		
Construction,	109,698 59		
Repairs of roads,	3,110 06		
Drain and catch-basins,			
Maple Street, Med-			
ford,	2,054 06		
Drain and sewer, Mys-			
tic Avenue, Somer-			
ville,	2,000 00		
Watering,	1,952 79		
Lighting,	1,505 30		
Land experts,	1,495 00		
<i>Am'ts carried forward,</i>	<hr/> \$176,262 58	<hr/> \$42,319 80	<hr/> \$2,206,099 00

<i>Am'ts brought forward,</i>	\$176,262 58	\$42,319 80	\$2,206,099 00
Watering carts, . . .	1,476 35		
Fences,	901 22		
Frames and grates, . .	876 62		
Shrubs,	381 94		
Lumber, drain pipe, etc.,	338 06		
Trees, furnished and planted,	325 00		
Advertising proposals,	234 92		
Granite steps,	209 00		
Grass seed,	189 76		
Lowering water pipes,	134 38		
Moving drain pipe, . .	30 40		
Grading "Blessing of the Bay Lot,"	123 00		
Paints,	76 33		
Tools, materials, etc., .	71 67		
Repairs,	42 95		
Water post,	39 00		
Watchman,	26 50		
Bicycle,	31 66		
Travelling expenses, . .	5 00		
Maps, plans, etc, . . .	2 70		
Miscellaneous,	134 16		
		181,913 20	

Mystic Valley Parkway:—

Land,	\$18,668 75		
Labor,	55 50		
Police,	2,354 65		
Engineering, pay rolls,	1,537 60		
Engineering, expenses,	183 47		
Landscape Architects, fees,	325 00		
Landscape Architects, expenses,	33 15		
Legal,	86 25		
Repairs of roads, . . .	3,186 22		
Lighting,	2,046 00		
Watering,	696 50		
Watering carts,	670 70		
Land experts,	621 25		
Lloyd Street entrance,	194 90		
Shrubs,	166 28		
Lumber, drain pipe, etc.,	133 80		
Frames, grates, etc., . .	116 64		
<i>Am'ts carried forward,</i>	\$31,076 66	\$224,233 00	\$2,206,099 00

<i>Am'ts brought forward,</i>	\$31,076 66	\$224,233 00	\$2,206,099 00
Bound stones, . . .	100 00		
Horse lawn-mower, . .	91 88		
Granite, Symmes en-			
trance,	85 64		
Tools, materials, etc., .	34 72		
Use of mowing ma-			
chine,	26 95		
Manure,	21 13		
Telephones,	16 50		
Paints,	16 15		
Photographs,	14 88		
Maps, plans, etc., . . .	2 72		
Miscellaneous,	18 76		
	<hr/>	31,505 99	

Revere Beach Parkway:—

Land,	\$10,750 48		
Labor,	10 00		
Engineering, pay rolls,	4,231 28		
Engineering, expenses,	458 96		
Landscape Architects,			
fees,	700 00		
Landscape Architects,			
expenses,	40 85		
Construction,	35,629 46		
Electrical contractor, .	1,443 18		
Land experts,	400 00		
Options,	330 00		
Advertising proposals,	235 06		
Frames and grates, . . .	89 39		
Maps and plans,	2 50		
Miscellaneous,	16 72		
	<hr/>	54,337 88	

Middlesex Fells Roads:—

Construction,	\$4,694 99		
Fence,	338 40		
Advertising proposals,	119 31		
Test pits,	82 80		
	<hr/>	5,235 50	

Stony Brook Roads:—

Engineering, pay roll,	\$2,108 87		
Engineering, expenses,	398 86		
Landscape Architects,			
fees,	50 00		
	<hr/>		
<i>Am'ts carried forward,</i>	\$2,557 73	\$315,312 37	\$2,206,099 00

<i>Am'ts brought forward,</i>	\$2,557 73	\$315,312 37	\$2,206,099 00
Construction, . . .	26,786 71		
Grass seed, . . .	52 55		
	<hr/>	29,396 99	

Neponset River Parkway:—

Land,	\$11,461 05		
Engineering, pay rolls,	1,412 56		
Engineering expenses,	233 61		
Landscape Architects,			
fees,	350 00		
Landscape Architects,			
expenses,	21 56		
Legal,	134 35		
Land experts, . . .	390 50		
	<hr/>	14,003 63	

Charles River Speedway:—

Engineering, pay rolls,	\$5,650 78		
Engineering, expenses,	483 46		
Landscape Architects,			
fees,	750 00		
Landscape Architects,			
expenses,	25 27		
Construction, . . .	133,415 28		
Frames and grates, .	1,712 66		
Building on Harvard			
Street,	210 00		
Advertising proposals,	127 00		
Test pits,	37 75		
Miscellaneous, . . .	6 12		
	<hr/>	142,418 32	

General expense:—

Engineering, pay rolls,	\$2,438 15		
Engineering, expenses,	2,534 98		
Landscape Architects,			
fees,	775 00		
Landscape Architects,			
expenses,	434 89		
Legal,	2,813 36		
Claim department, .	1,643 33		
Supervisor of construc-			
tion,	833 32		
Salaries,	194 00		
Rent,	850 02		
Options,	533 00		
<i>Am'ts carried forward,</i>	<hr/> \$13,050 05	<hr/> \$501,131 31	<hr/> \$2,206,099 00

<i>Am'ts brought forward,</i>	\$13,050 05	\$501,131 31	\$2,206,099 00
Stationery, . . .	408 63		
Office expenses, . . .	343 95		
Maps, plans, etc., . . .	288 06		
Land experts, . . .	150 00		
Telephones, . . .	116 10		
Travelling expenses, . . .	107 81		
Moving, engineering department, . . .	72 50		
Miscellaneous, . . .	44 24		
	<hr/>	14,581 34	
		<hr/>	
		\$515,712 65	
Amount charged to Dec. 1, 1897, . . .		813,782 16	
		<hr/>	
		\$1,329,494 81	
Amount reserved by Auditor, . . .		52,171 30	
		<hr/>	1,381,666 11
			<hr/>
Balance in hands of State Treasurer, . . .			\$824,432 89
			<hr/> <hr/>

METROPOLITAN PARKS LOAN.

ANALYSIS OF PAYMENTS FROM JAN. 1, 1898, TO
DEC. 31, 1898, PREPARED IN STATE AUDITOR'S
OFFICE.

SERIES I.

<i>Secretary.</i>		
John Woodbury,		\$4,000 00
<i>Clerks.</i>		
Mary V. Habberley,	\$1,000 00	
Alice Edson,	720 00	
Alice G. Kelley,	312 00	
M. C. Godvin,	300 00	
William H. Gowell,	72 00	
Edith Noble,	70 00	
H. M. Carey, messenger,	40 00	
		2,514 00
<i>Expenses.</i>		
L. A. Frothingham, legal services,	\$300 00	
Frederic S. Goodwin, services,	1,500 00	
Frederic S. Goodwin, expenses,	371 50	
George L. Rogers, services,	1,075 00	
Abraham L. Richards, services,	833 32	
Philip S. Parker, services,	450 00	
Eben S. Curtis (Resolves 1898, chapter 2),	2,500 00	
R. S. Barlow,	231 75	
Stephen S. Bartlett,	617 24	
Prescott F. Hall,	148 78	
Frank A. North,	167 02	
F. L. & J. C. Olmsted,	1,393 81	
Olmsted Brothers,	1,889 41	
W. T. Pierce, expenses,	236 62	
T. F. Reddy,	318 55	
Charles F. Richardson,	10 52	
Shepley, Rutan & Coolidge,	10 00	
Jeremiah Smith, Jr.,	26 28	
Andrew Stuart,	100 00	
Atlas,	25 00	
Badges,	3 20	
Blacking stoves,	3 50	
Blue prints,	359 74	
Books,	7 00	
Brushes, etc.,	6 61	
<i>Amounts carried forward,</i>	\$12,584 85	\$6,514 00

Analysis of Payments, etc. — Continued.

<i>Amounts brought forward,</i> . . .	\$12,584 85	\$6,514 00
Caps,	7 50	
Carpets,	388 25	
Carriage hire,	23 00	
Cloth-backing plans,	7 85	
Dinners,	26 20	
Directory,	5 50	
Drawing material,	195 48	
Dusters,	4 50	
Electric light,	14 39	
Electric supplies,	40 00	
Experts,	50 00	
Flags,	34 00	
Furniture,	220 74	
Hand stamps,	10 00	
Hanging awnings,	9 00	
Hardware,	95 27	
Ice,	18 25	
Janitor,	109 00	
Keys,	2 50	
Labor, engineering department,	11,042 11	
Maps,	40 00	
Money bags,	15 75	
Moving,	91 50	
Oiling floors,	38 00	
Photographs,	279 51	
Piping,	1 83	
Postage,	119 00	
Printing,	323 25	
Rent and care of offices, 14 Beacon Street,	441 67	
Rent of offices, Ames building, etc.,	1,763 15	
Repairing carriage,	51 00	
Repairing instruments,	4 35	
Signs,	25 00	
Spring water,	1 75	
Stakes,	52 50	
Stationery,	465 51	
Telephone,	144 31	
Towel supply,	38 80	
Travel,	291 00	
Typewriter and supplies,	104 74	
Typewriting,	19 90	
Uniforms,	236 95	
Window shades,	8 50	
Zinc screens,	20 75	
<i>Beaver Brook Reservation.</i>		29,467 11
Blacksmithing,	\$43 40	
Brooms,	1 20	
Flag,	12 25	
Furnace,	96 00	
Grass seed,	2 35	
<i>Amounts carried forward,</i>	\$155 20	\$35,981 11

Analysis of Payments, etc.—Continued.

<i>Amounts brought forward,</i> . . .	\$155 20	\$35,981 11
Hardware,	31 19	
Harness,	4 83	
Hats,	1 85	
Hay, oats, etc.,	87 82	
Horse hire,	34 15	
Hot-air engine,	80 00	
Labor,	1,330 00	
Loam,	135 00	
Lumber,	71 93	
Oil,	12 99	
Paint,	6 51	
Plants,	59 25	
Repairs to furnace,	7 35	
Repairs to harness,	1 50	
Repairs to lawn mower,	3 50	
Repairs to wagon,	19 00	
Stationery,	1 75	
Travel,	12 15	
Uniforms,	18 40	
Use of sewer,	4 50	
Veterinary's services,	22 00	
A. F. Haynes,	15 00	
McCusker Brothers,	202 45	
F. L. & J. C. Olmsted,	28 91	
Olmsted Brothers,	130 32	
		2,477 55
<i>Blue Hills Reservation.</i>		
Bicycle room and holders,	\$76 87	
Bronze tablet,	58 75	
Carriage hire,	65 00	
Cloth-backing,	1 60	
Coal,	24 00	
Corn, meal and oats,	570 35	
Electric lights,	66 00	
Experts,	22 50	
Express,	4 95	
Fertilizer,	36 00	
Fire extinguisher,	7 95	
Grass seed,	7 52	
Hand carts, etc.,	31 48	
Hardware,	138 54	
Harness,	77 88	
Hats,	5 25	
Horse,	170 00	
Horse hire,	1,113 25	
Hose,	36 75	
Hunting foxes,	15 00	
Labor,	9,218 45	
Lumber,	54 28	
Painting,	67 70	
Piping,	185 88	
<i>Amounts carried forward,</i>	\$12,055 95	\$38,458 66

Analysis of Payments, etc. — Continued.

<i>Amounts brought forward,</i>	\$12,055 95	\$38,458 66
Plumbing,	16 35	
Police,	3,512 36	
Police clubs,	7 13	
Repairs to furnace,	42 80	
Repairs to wagons,	49 25	
Scythes,	8 93	
Sharpening tools, etc.,	514 11	
Sheriff's services,	9 44	
Stationery,	5 15	
Telegrams and telephone,	165 45	
Travel,	43 53	
Uniforms,	50 25	
Wall-papering house,	68 02	
Water,	21 83	
Window shades,	25 60	
Andrews, Jaques & Rantoul,	200 00	
Arthur F. Gray,	207 85	
Prescott F. Hall,	75 38	
Loomer & Allen,	808 00	
Patrick O'Hearn,	3,904 19	
F. L. & J. C. Olmsted,	45 69	
Olmsted Brothers,	390 96	
Paid for land to,—		
Albert D. S. Bell, Quincy,	200 00	
George L. Binney, Quincy,	460 00	
J. Walter Bradlee <i>et al.</i> , trustees, Milton,	1,934 00	
Almira A. Denton <i>et al.</i> , Quincy,	25 00	
Caroline L. Field, Milton,	56 75	
Mary J. Grant, Milton,	50 00	
Hancock National Bank, Quincy,	460 00	
Isabella McDonald, Milton,	2,000 00	
John A. Tucker, Milton,	2,232 00	
Theodore F. Whitney, Milton,	56 75	
		29,702 72
<i>Charles River Reservation.</i>		
Advertising,	\$154 90	
Blue prints,	15 73	
Boat,	29 78	
Building fence,	74 57	
Carriage hire,	63 50	
Cloth-backing plans,	85 13	
Copying deeds,	26 67	
Experts,	16,530 65	
Fence posts,	527 50	
Furniture,	5 80	
Grates,	148 91	
Gravel,	41 50	
Hardware,	18 00	
Horse hire,	78 45	
Lumber,	65 15	
<i>Amounts carried forward,</i>	\$17,866 24	\$68,161 38

Analysis of Payments, etc. — Continued.

<i>Amounts brought forward,</i> . . .	\$17,866 24	\$68,161 38
Office,	95 00	
Painting signs,	10 92	
Photographs,	49 36	
Plumbing,	2 50	
Police,	7 50	
Recording deeds,	3 00	
Rent of land,	100 00	
Sheriff's expenses,	58 40	
Shovelling snow,	1 70	
Stakes,	8 25	
Stenographer,	16 25	
Stone bounds,	896 19	
Taxes on land,	194 40	
Teaming,	30 25	
Telephone,	65	
Travel,	435 10	
Typewriting,	19 91	
Use of boat,	10 00	
Use of plans,	10 50	
Water,	19 16	
R. S. Barlow,	320 00	
S. S. Bartlett,	165 00	
John F. Boles,	174 70	
Frank E. Bradish,	145 00	
Charles M. Draper,	6 15	
Ellis L. Dresel,	170 00	
Fisk & Odiorne,	30 00	
L. A. Frothingham,	80 00	
Prescott F. Hall,	288 98	
T. F. Kelley,	20 00	
Frank A. North,	1,447 89	
F. L. & J. C. Olmsted,	1,415 82	
Olmsted Brothers,	530 44	
Edward L. Rand,	1,057 80	
Charles E. Stearns,	145 00	
Paid for land to,—		
Albert B. Allison, Newton,	3,222 00	
James A. Bailey, Jr., attorney, Boston,	1,600 00	
Thomas S. Brown, guardian, Boston,	67 50	
Francis Burke, Boston,	5,845 16	
Philip A. Chase, Newton and Wellesley,	15,532 24	
Ada M. Colby, Watertown,	750 00	
Arthur F. Coolidge, attorney, Cambridge,	18,500 00	
Eva D. Corey, Boston,	153 11	
Sarah E. Corey, Boston,	918 64	
Henry S. Denny <i>et al.</i> , trustees, Newton,	6,000 00	
Nathan Drake, Watertown,	50 00	
Joseph E. Fiske, Wellesley,	4,210 50	
Thomas B. Griggs, Boston,	772 50	
Charles E. Hellier, attorney, Boston,	42,072 20	
<i>Amounts carried forward,</i>	\$125,525 91	\$68,161 38

Analysis of Payments, etc. — Continued.

<i>Amounts brought forward,</i> . . .	\$125,525 91	\$68,161 38
Joseph H. Hoag, attorney, Boston, . . .	472 50	
Edward Jackson <i>et al.</i> , Cambridge, . . .	4,679 16	
Lawrence H. H. Johnson, attorney, Water- town, . . .	4,000 00	
C. F. Kittredge, attorney, Cambridge, . . .	19,000 00	
Joseph H. Ladd, attorney, Watertown, . . .	400 00	
Daniel F. Learned, attorney, Watertown, . . .	2,000 00	
A. Lawrence Lowell <i>et al.</i> , trustees, Cam- bridge, . . .	12,000 00	
Middleton Paper Company, Newton and Wellesley, . . .	18,000 00	
Old Colony Trust Company, Boston, . . .	4,000 00	
Joseph W. Pearson, attorney, Newton, . . .	3,084 40	
George Putnam <i>et al.</i> , trustees, Boston, . . .	12,522 05	
William L. Putnam, Cambridge, . . .	4,679 15	
Charles C. Reed, attorney, Boston, . . .	2,100 00	
William H. Richardson, attorney, Boston, . . .	4,000 00	
Frederick H. Rindge, Boston, . . .	2,865 00	
Morris Schaff, attorney, Watertown, . . .	700 00	
Josiah H. Stickney <i>et als.</i> , trustees, Water- town, . . .	30,000 00	
J. J. Sullivan, attorney, Watertown, . . .	2,274 06	
Walker & Pratt Manufacturing Co., Water- town, . . .	105,183 00	
		357,485 23
<i>Hemlock Gorge Reservation.</i>		
Drinking fountain, . . .	\$20 25	
Experts, . . .	180 00	
Flag pole, . . .	60 00	
Grading, . . .	20 00	
Hardware, . . .	10 02	
Hats, . . .	1 85	
Horses, . . .	6 00	
Labor, . . .	837 40	
Loam, . . .	18 05	
Lumber, . . .	36 26	
Painting, . . .	43 50	
Piping, . . .	126 96	
Plumbing, . . .	6 60	
Police, . . .	90 00	
Postage, . . .	5 65	
Setting glass, etc., . . .	3 85	
Stationery, . . .	1 75	
Teaming, . . .	4 00	
Travel, . . .	11 00	
Water, . . .	12 00	
Work on canoe carry, . . .	4 50	
Olmsted Brothers, . . .	1 87	
Samuel A. Piper, . . .	101 67	
Paid for land in Needham to,—		
Mary Denning, . . .	94 00	
William E. Hurd, . . .	206 00	
		1,903 18
<i>Amount carried forward,</i> . . .		\$427,549 79

Analysis of Payments, etc. — Continued.

<i>Amount brought forward,</i>		\$427,549 79
<i>King's Beach Reservation.</i>		
Experts,	\$40 00	
Prescott F. Hall,	11 32	
Tuttle & Edgerly,	500 00	
Paid for land in Swampscott to,—		
Warren Atkins,	168 85	
Francis Burke, attorney,	4,000 00	
William D. Northend, attorney,	3,000 00	
Thomas E. Stone,	256 57	
		7,976 74
<i>Middlesex Fells Reservation.</i>		
Badges,	\$1 25	
Blacksmithing,	91 70	
Bunting,	8 00	
Camphor, etc.,	9 40	
Carriage hire,	33 50	
Cartridges,	66 66	
Cloth-backing plans,	2 23	
Clubs, twisters and handcuffs,	23 53	
Electric lights,	187 20	
Experts,	408 55	
Express,	19 85	
Glass,	2 59	
Grass seed,	10 70	
Hardware,	335 09	
Harness,	46 73	
Hats,	25 95	
Hay, oats, etc.,	297 88	
Horse hire,	2,826 25	
Hose,	8 21	
Labor,	10,567 90	
Ladders,	4 00	
Leggings,	18 45	
Life preservers,	7 00	
Lumber,	307 57	
Medicine,	4 74	
Money bag,	4 25	
Oil,	98 41	
Paint,	217 42	
Photographs,	27 25	
Police,	3,648 00	
Police clubs,	24 68	
Powder and dynamite,	135 00	
Repairing bicycles,	70 67	
Repairing furnace,	40 14	
Repairing harnesses,	14 70	
Repairing telephone,	2 50	
Repairing wagon,	6 85	
Revolvers and holsters,	23 62	
Road roller,	191 25	
Rope,	9 44	
Rubber clothing,	38 50	
<i>Amounts carried forward,</i>	\$19,857 61	\$435,526 53

Analysis of Payments, etc. — Continued.

<i>Amounts brought forward,</i>	\$19,857 61	\$435,526 53
Sharpening tools,	198 60	
Snow scraper,	7 64	
Stationery,	3 90	
Stone bounds,	40 00	
Tape,	5 75	
Telephone,	120 20	
Tip cart,	65 00	
Towels, sponges, etc.,	21 55	
Transportation of prisoners,	3 38	
Travel,	125 10	
Uniforms and repairs,	165 85	
Use of plans,	25 00	
Veterinary's services,	100 00	
Water rates,	33 00	
Windows,	37 15	
Window shades,	9 00	
City of Medford, repairs to streets,	3,000 00	
F. L. & J. C. Olmsted,	66 89	
Olmsted Brothers,	714 05	
Charles P. Price, expenses,	28 33	
Jeremiah Smith, Jr.,	20 00	
<i>Paid for land to,—</i>		
John L. Behneke, attorney, Melrose,	300 00	
John H. Butler, attorney, Malden,	428 00	
William Dwyer, Medford,	8,093 42	
William P. Greeley, Winchester,	321 00	
Samuel C. Lawrence, Medford,	1,301 68	
Alonzo V. Lynde, Melrose and Milford,	30,320 00	
Ellen T. Meade, Medford,	31 00	
		65,453 10
<i>Mystic River Reservation.</i>		
Charles G. Brown,		200 00
<i>Revere Beach Reservation.</i>		
Advertising,	\$1 50	
Awnings,	95 00	
Barrels,	34 80	
Blacksmithing,	1 50	
Blocks,	7 12	
Bicycle racks,	31 58	
Board of horse,	249 65	
Building fence,	325 91	
Carriage hire,	123 50	
Cart,	31 32	
Cement,	5 95	
Cleaning uniforms,	25 58	
Cloth-backing map,	3 10	
Coal,	296 03	
Concrete,	38 00	
Coverings,	29 25	
<i>Amounts carried forward,</i>	\$1,299 79	\$501,179 63

Analysis of Payments, etc. — Continued.

<i>Amounts brought forward,</i>	\$1,299 79	\$501,179 63
Disinfectant,	15 14	
Electric lights,	1,162 35	
Electric supplies,	112 15	
Erecting stand-pipe,	18 52	
Experts,	2,880 00	
Express,	13 65	
Grass seed,	13 35	
Grates and frames,	7 51	
Gravel,	302 40	
Gunpowder,	31 66	
Handcuffs,	15 34	
Hardware,	286 49	
Hats,	31 55	
Horse hire,	246 00	
Hose, etc.,	20 15	
Ice,	26 85	
Iron gate,	16 00	
Labor,	3,807 99	
Leggings,	1 00	
Loam,	78 30	
Liquors,	7 00	
Lumber,	74 64	
Matches,	2 00	
Meals for prisoners,	9 25	
Medical services,	58 00	
Moving buildings,	920 68	
Oil,	15 25	
Packings and lacings,	22 00	
Painting,	131 60	
Photographs,	10 00	
Piping,	71 17	
Plumbing,	212 78	
Police,	8,317 75	
Repairs,	137 03	
Revolvers,	20 43	
Road rollers,	24 50	
Rubber matting,	47 70	
Setting glass,	3 50	
Sheriff's fees,	63 20	
Signs,	9 05	
Snow plough,	40 00	
Stakes,	20 75	
Stationery,	199 35	
Stone,	21 34	
Street sprinkler,	335 35	
Summoning witnesses,	85 21	
Sundries,	132 91	
Teaming,	135 55	
Telephone,	198 75	
Travel,	73 45	
Uniforms,	231 81	
<i>Amounts carried forward,</i>	\$22,018 19	\$501,179 63

Analysis of Payments, etc. — Continued.

<i>Amounts brought forward,</i> . . .	\$22,018 19	\$501,179 63
Use of patrol wagon,	62 00	
Use of steam roller,	62 22	
Waste,	15 80	
Water,	107 19	
Watering,	266 86	
Wooden building,	800 00	
Work on engine,	4 28	
Boston, Revere Beach & Lynn Railroad, . .	2,944 70	
Charles H. Davis,	152 60	
B. F. Flinn,	43 50	
Fraser Brothers,	175 00	
William H. Graham,	393 52	
Prescott F. Hall,	7 10	
Murdock Parlor Grate Company,	3,788 90	
F. L. & J. C. Olmsted,	505 70	
Olmsted Brothers,	1,020 97	
John S. Potter,	1,765 46	
Thomas F. Reddy,	248 20	
Revere Water Company,	1,263 00	
Sampson Brothers Corporation,	309 36	
Stickney & Austin,	500 00	
T. Stuart & Son,	8,597 14	
E. K. Turner,	250 00	
Paid for land in Revere to, —		
Hollis M. Bailey, attorney,	13,264 00	
Frederick F. Baldwin <i>et al.</i> , mortgagees, .	67,000 00	
Charles C. Barton, attorney,	1,809 15	
Albert D. Bosson, attorney,	1,500 00	
J. Q. A. Brackett, attorney,	600 00	
J. Walter Bradlee, attorney,	311 25	
John H. Colby, attorney,	1,900 00	
Elder, Wait & Whitman, attorneys, . . .	2,750 00	
Essex Savings Bank, Lawrence,	1,000 00	
George W. Fifield, administrator, . . .	44,331 32	
Edwin B. Hale, attorney,	5,024 81	
Edward O. Howard, attorney,	65 00	
George S. Lee, trustee,	1,050 00	
Amos M. Leonard,	140 00	
James McClary, trustee,	191 40	
Arthur D. McClellan,	245 23	
Arthur D. McClellan, attorney,	53,455 12	
Malcolm McLoud, attorney,	1,501 24	
Andrew W. Patch <i>et al.</i> ,	1,236 00	
William G. Reed, attorney,	2,500 00	
Town of Revere,	152 79	
Theodore H. Tyndale, trustee,	1,835 41	
Henry L. Whittlesey, attorney,	900 00	
Damages: —		
Morse & Lane,	550 00	
John F. Simmons, attorney,	850 00	
Frank C. Travers,	225 00	
		249,189 41
<i>Amount carried forward,</i>		\$750,369 04

Analysis of Payments, etc. — Continued.

<i>Amount brought forward,</i>		\$750,369 04
<i>Bath-house.</i>		
Bath tickets,	\$114 30	
Bathing suits,	3,261 51	
Bicycle checks,	24 16	
Brandy, etc.,	1 65	
Checks,	23 71	
Coal,	140 89	
Combs,	3 60	
Disinfectant,	37 50	
Dry goods,	66 07	
Electric light,	1,721 22	
Furniture,	84 50	
Hardware,	161 66	
Hose,	102 97	
Ice,	103 20	
Key rings,	7 50	
Labor,	13,154 17	
Laundry baskets,	24 00	
Lunches,	93 98	
Mangles,	41 25	
Matting,	87 03	
Plumbing,	16 01	
Removing prisoners,	61 00	
Repairs,	94 43	
Soap,	49 83	
Stationery,	26 20	
Stockings,	86 29	
Taking down laundry machinery,	317 23	
Toilet paper,	38 40	
Uniforms,	28 75	
Washing towels, etc.,	376 89	
Watchmen,	120 00	
Water,	26 30	
William T. Eaton (Resolves, chapter 80 of 1898),	1,374 00	
William T. Eaton,	1,676 00	
George Steadman,	200 00	
Stickney & Austin,	60 00	
		23,806 20
<i>Stony Brook Reservation.</i>		
Advertising,	\$1 00	
Blacksmithing,	85 23	
Carriage hire,	10 00	
Charging extinguishers,	7 50	
Cleaning uniforms,	4 25	
Copy of will,	4 00	
Experts,	4,507 22	
Express,	9 60	
Fence,	75 87	
Fertilizer,	25 00	
Filing horses' teeth,	2 00	
Fire extinguishers,	101 25	
Flag,	10 15	
<i>Amounts carried forward,</i>	\$4,843 07	\$774,175 24

Analysis of Payments, etc. — Continued.

<i>Amounts brought forward,</i> . . .	\$4,843 07	\$774,175 24
Fuse,	2 85	
Gas fixtures,	87 20	
Grass seed,	18 62	
Hardware,	236 80	
Harness,	56 69	
Hats,	1 85	
Hay and oats,	120 78	
Horse,	112 00	
Horse hire,	760 11	
Iron work,	18 82	
Labor,	4,684 20	
Lumber,	28 38	
Oil,	12 43	
Papering,	63 12	
Piping,	22 41	
Police,	1,114 00	
Range,	38 70	
Reflector,	11 90	
Repairs,	10 30	
Rubber coat,	4 50	
Sleigh,	12 00	
Stakes,	20 00	
Tip cart and repairs,	106 70	
Travel,	33 20	
Water,	62 00	
Water pipes,	29 30	
Wheelbarrows,	9 10	
Window shades,	22 50	
Wiring,	62 70	
J. H. Burt & Co.,	2,476 75	
Arthur F. Gray,	80 75	
Prescott F. Hall,	105 76	
F. L. & J. C. Olmsted,	50 98	
Olmsted Brothers,	255 36	
Paid for land to, —		
Robert D. Bleakie, Hyde Park,	367 50	
Henry S. Bunton, treasurer, Hyde Park,	1,020 00	
Charles G. Chick, attorney, Hyde Park,	2,366 12	
Edward S. Grew, Hyde Park,	5,773 75	
Henry S. Grew, Hyde Park,	5,773 75	
Harvard College, Boston,	9,104 81	
Albert F. Hayden, attorney, Hyde Park,	738 20	
Frank D. Homans, Hyde Park,	406 94	
Frank D. Homans, administrator, Hyde Park,	203 48	
Charles F. Jenney <i>et al.</i> , attorneys, Hyde Park,	6,222 50	
Jenney & Chick, attorneys, Hyde Park,	9,689 54	
Jenney & Chick, attorneys, Boston,	1,072 50	
Morse & Lane, attorneys, Hyde Park,	4,636 97	
<i>Amounts carried forward,</i>	\$62,951 89	\$774,175 24

Analysis of Payments, etc. — Continued.

<i>Amounts brought forward,</i>	\$62,951 89	\$774,175 24
Radcliffe College, Hyde Park,	1,476 41	
Saco and Biddeford Savings Bank, Hyde Park,	235 46	
Henry H. Smith, attorney, Hyde Park,	25 00	
Andrew G. Webster <i>et al.</i> , trustees, Boston,	1,072 50	
Andrew G. Webster <i>et al.</i> , trustees, Hyde Park,	8,347 50	
Lucie J. Whittemore, attorney, Boston,	400 00	
		74,508 76
<i>West Roxbury Parkway.</i>		
Thomas F. Reddy,	\$5 00	
Paid for land in Boston to,—		
Charles H. Blake,	250 00	
Ida E. Hale, guardian,	250 00	
		505 00
Total payments, . . . .	. . . .	\$849,189 00

SERIES II.

Atlases,	\$75 00	
Awnings,	7 00	
Badges,	24 00	
Blue prints,	213 72	
Carriage hire,	15 50	
Cloth backing,	11 44	
Considerations for bonds,	13 00	
Cuspidors,	13 88	
Damages,	245 00	
Dinners,	6 40	
Drawing material,	213 48	
Electric light,	31 49	
Engineer's office,	25 00	
Experts,	150 00	
Furniture,	682 93	
Gas lighting,	470 85	
Hardware,	68 05	
Instruments and cleaning,	87 35	
Janitor,	100 00	
Keys,	6 25	
Labor, engineering department,	27,750 84	
Lumber,	12 23	
Mounting plans,	2 93	
Moving,	72 50	
Painting,	11 00	
Postage,	104 50	
<i>Amount carried forward,</i>	\$30,414 34	

Analysis of Payments, etc. — Continued.

<i>Amount brought forward,</i>	\$30,414 34	
Printing,	254 00	
Rent and care of offices, 14 Beacon Street,	650 01	
Rent, Ames building, etc.,	1,758 35	
Repairing transits,	22 50	
Repairing typewriter,	8 65	
Signs,	11 75	
Stakes,	72 50	
Stationery,	293 37	
Tapes,	24 00	
Target,	5 00	
Telephone,	155 98	
Towel supply,	31 95	
Travel,	189 90	
Typewriter supplies,	8 25	
Typewriting,	59 79	
Louis A. Frothingham,	200 00	
Frederic S. Goodwin, services,	1,500 00	
Frederic S. Goodwin, expenses,	370 86	
Mary C. Godvin,	340 00	
Alice G. Kelley,	312 00	
Edith W. Noble,	80 00	
Philip S. Parker,	300 00	
Abraham L. Richards, services,	1,041 66	
Abraham L. Richards, expenses,	77 76	
George L. Rogers,	1,016 66	
H. M. Carey, messenger,	45 00	
William H. Gowell, messenger,	60 00	
P. F. Hall,	38 08	
Frank A. North,	100 45	
F. L. & J. C. Olmsted,	330 26	
Olmsted Brothers,	802 62	
Philip S. Parker,	66 50	
W. T. Pierce,	182 17	
Whitman & Howard,	187 87	
		\$41,012 23
<i>Blue Hills Parkway.</i>		
Carriage hire,	\$29 00	
Experts,	800 00	
Grass seed,	58 82	
Grates and frames,	24 77	
Horse hire,	43 29	
Labor,	368 55	
Plumbing,	8 35	
Police,	426 50	
Posts,	134 90	
Sharpening tools,	2 90	
Sheriff's services,	7 12	
Signs,	18 00	
Sprinkling,	550 00	
Stakes,	14 25	
Stone steps,	6 00	
<i>Amounts carried forward,</i>	\$2,492 45	\$41,012 23

Analysis of Payments, etc. — Continued.

<i>Amounts brought forward,</i>	\$2,492 45	\$41,012 23
Travel,	85 00	
Trimming trees,	10 00	
Prescott F. Hall,	50 99	
Olmsted Brothers,	14 42	
Charles F. Richardson,	46 20	
F. X. Saucier,	13,669 99	
Paid for land in Milton to, —		
Joseph R. Churchill, attorney,	511 50	
Joseph R. Churchill <i>et al.</i> , trustees,	497 50	
Frank A. Graves,	4,496 00	
Leopold Morse Home for Infirm Hebrews and Orphanage,	14,500 00	
Jennie Robson, Milton,	31 00	
South Boston Savings Bank,	900 00	
		37,305 05
<i>Charles River Speedway.</i>		
Advertising,	\$127 00	
Blue prints,	7 21	
Carpenter work,	50 00	
Coal,	8 15	
Engineers' building,	75 00	
Frames and grates,	1,099 11	
Furniture,	41 50	
Gates,	322 00	
Glassware,	3 15	
Hardware,	9 50	
Ladder,	1 75	
Lumber,	77 87	
Piping,	10 65	
Plants,	161 25	
Plumbing,	85 00	
Rubber goods,	16 90	
Stakes,	22 00	
Stove,	11 31	
Towel supply,	5 00	
Travel,	22 95	
Water,	6 67	
S. S. Bartlett,	33 85	
Thomas H. Gill,	11,128 93	
Edward A. Janse,	2,242 37	
Henry P. Nawn,	127,619 04	
Henry P. Nawn and Nathan S. Brock,	8,483 42	
Frank A. North,	13 15	
Olmsted Brothers,	775 27	
W. T. Pierce, travel,	280 60	
Thomas F. Reddy,	16 50	
		152,757 10
<i>Middlesex Fells Parkway.</i>		
Advertising,	\$220 52	
Blacksmithing,	6 25	
Brake for sprinkler,	22 00	
<i>Amounts carried forward,</i>	\$248 77	\$231,074 38

Analysis of Payments, etc. — Continued.

<i>Amounts brought forward,</i> . . .	\$248 77	\$231,074 38
Building fence,	494 82	
Carriage hire,	34 25	
Case for drawings,	3 50	
Changing water pipes,	134 38	
Cloth backing,	2 70	
Coal,	8 40	
Experts,	1,245 00	
Express,	1 00	
Fertilizer,	13 00	
Frames and grates,	718 25	
Furniture,	3 50	
Grass seed,	196 56	
Grates,	8 28	
Gravel,	123 00	
Gravel screens,	13 75	
Guard rail,	406 40	
Hardware,	167 48	
Hire of storage house,	32 00	
Hose,	12 00	
Horse hire,	1,532 00	
Labor,	2,918 03	
Lettering,	7 48	
Lighting,	1,690 80	
Lumber,	385 19	
Oil,	64 83	
Paint,	17 25	
Piping,	30 40	
Plants,	88 07	
Police,	1,682 98	
Posts,	4 50	
Recording deeds,	2 91	
Rent,	24 00	
Repairs to uniforms,	1 00	
Stakes,	153 90	
Stone,	1,672 77	
Stove pipe,	1 90	
Street sprinklers,	1,454 35	
Travel,	264 00	
Trees and plants,	590 07	
Typewriting,	17 17	
Valve,	4 00	
Watchman,	26 50	
Watering,	1,012 29	
Windows,	42 95	
R. S. Barlow,	1 25	
Stephen S. Bartlett,	14 80	
Coleman Brothers,	76,255 86	
H. J. Frost,	16 50	
J. D. Gennarough,	22,822 93	
Martin Gill,	2,539 88	
Prescott F. Hall,	10 30	
<i>Amounts carried forward,</i>	\$119,217 90	\$231,074 38

Analysis of Payments, etc.—Continued.

<i>Amounts brought forward,</i>	\$119,217 90	\$231,074 38
A. W. Merrow,	338 40	
F. A. North,	4 10	
Olmsted Brothers,	190 76	
Edward L. Rand,	235 00	
T. F. Reddy,	5 40	
Michael Tallent & Co.,	6,840 58	
Jeremiah Smith, Jr.,	32 40	
Wason & Libbey,	4,694 99	
Paid for land to,—		
John G. Chandler, attorney, Medford,	300 00	
Patrick A. Collins, attorney, Medford,	679 00	
Henry V. Cunningham, attorney, Malden,	150 00	
Jerome S. Daniels, attorney, Medford,	149 60	
John D. Drum, attorney, Medford,	1,598 00	
Elder, Wait & Whitman, attorneys, Medford,	5,500 00	
Francis X. Fitzpatrick, Medford,	1,566 00	
Katherine Flatley, Malden and Medford,	1,954 40	
George O. Foster, attorney, Medford,	4,000 00	
Asa French, attorney, Malden and Medford,	1,055 19	
Bertha Jackson, Malden,	200 00	
Jeremiah Kelleher, Malden,	801 60	
Alonzo V. Lynde, Medfield,	680 00	
Malden Co-operative Bank,	98 40	
Jeremiah J. McCarthy <i>et al.</i> , Malden,	12,495 56	
Medford Savings Bank,	402 00	
Frank O. Reed <i>et al.</i> , Somerville,	2,660 00	
Colver J. Stone, attorney, Malden,	150 00	
Warren Institution for Savings,	1,004 44	
		167,003 72
<i>Mystic Valley Parkway.</i>		
Care of Welsbach lights,	\$170 50	
Carriage hire,	60 50	
Cement,	12 00	
Cloth backing,	2 72	
Electric lights,	1,534 50	
Experts,	511 00	
Fertilizer,	21 13	
Frames and grates,	8 23	
Hardware,	33 38	
Horse hire,	1,412 70	
Labor,	2,482 43	
Lawn mower,	91 88	
Lumber,	139 10	
Moving,	22 00	
Paint,	16 15	
Piping,	226 01	
Plan,	5 00	
Plants,	166 28	
Police,	2,223 50	
<i>Amounts carried forward,</i>	\$9,139 01	\$398,078 10

Analysis of Payments, etc. — Continued.

<i>Amounts brought forward,</i>	\$9,139 01	\$398,078 10
Sharpening tools,	11 45	
Spades, etc.,	6 25	
Stone,	85 64	
Street sprinklers,	670 70	
Telephone,	16 50	
Travel,	53 65	
Uniforms,	27 65	
Use of roller,	5 00	
Watering,	80 00	
Olmsted Brothers,	317 56	
Henry S. Potter, executor,	1,443 18	
T. F. Reddy,	5 00	
 Paid for land in Winchester to,—		
Ann Bacon,	5,000 00	
Elder, Wait & Whitman, attorneys,	13,500 00	
Clara Shepard,	168 75	
		30,530 34
 <i>Neponset River Parkway.</i>		
Experts,	\$590 41	
Photographs,	13 50	
Stove,	14 39	
Travel,	211 00	
R. S. Barlow,	42 60	
S. S. Bartlett,	5 00	
Julian Codman,	8 57	
Prescott F. Hall,	113 94	
F. L. & J. C. Olmsted,	1,018 83	
Olmsted Brothers	52 73	
William T. Pierce,	29 06	
T. F. Reddy,	18 42	
H. T. Whitman,	10 50	
 Paid for land to,—		
Edwin Holland <i>et al.</i> , trustees, Milton,	3,000 00	
James D. McAvoy, Hyde Park,	8,461 05	
		13,590 00
 <i>Quincy Parkway.</i>		
Considerations for bonds,	\$92 00	
Frames and grates,	101 13	
Sheriff's services,	16 64	
Travel,	62 00	
Olmsted Brothers,	480 90	
William T. Pierce,	114 97	
		867 64
 <i>Revere Beach Parkway.</i>		
Advertising,	\$235 06	
Coal,	4 75	
Considerations for bonds,	310 00	
Experts,	420 00	
Frames and grates,	334 96	
 <i>Amounts carried forward,</i>	\$1,304 77	\$443,066 08

Analysis of Payments, etc. — Concluded.

<i>Amounts brought forward,</i> . . .	\$1,304 77	\$443,066 08
Labor,	10 00	
Lumber,	267 15	
Mounting prints,	2 50	
Moving building,	10 00	
Plans,	125 00	
Repairs,	45 71	
Rubber boots,	21 36	
Stakes,	76 00	
Sundries,	11 20	
Traps,	89 39	
Travel,	125 00	
Typewriting,	6 12	
P. H. Byron & Son,	3,437 60	
Prescott F. Hall,	15 20	
John J. O'Brien & Co.,	25,767 85	
Olmsted Brothers,	340 85	
T. F. Reddy,	45 00	
T. Stuart & Son,	524 22	
Whitman & Howard,	25 00	
John A. Whittemore's Sons,	6,168 95	
Paid for land in Revere to, —		
Charles C. Barton,	1,500 00	
Arthur D. McClellan, attorney,	1,657 18	
		41,576 05
<i>Stony Brook Roads.</i>		
Experts,	\$408 55	
Grass seed,	52 55	
Travel,	103 50	
Owen Cunningham & Son,	25,561 09	
William T. Pierce, expenses,	40 14	
		26,160 83
<i>Winthrop Parkway.</i>		
Cloth backing,	\$13 44	
Considerations for bonds,	30 00	
Experts,	154 00	
Olmsted Brothers,	57 81	
		255 25
Total payments, . . . . .	. . .	\$511,058 21

CLAIMS.

[CHAPTER 366 OF THE ACTS OF 1898.]

Blue Hills Reservation.

NAME.	Nature of Claim.	Amount
J. A. & W. Bird & Co., . . .	Paint,	\$6 50
Elbridge Blackman,	Horseshoeing,	12 55
J. H. Burt & Co.,	Lumber,	9 68
Burditt & Williams,	Tools, etc.,	36 81
C. Cronan,	Veterinary,	13 00
L. Crossman & Son,	Team hire,	8 00
Samuel Gannett,	Hay,	77 52
O. S. Godfrey & Son,	Lumber,	53 30
Hill & Hill,	Harness,	37 50
London Harness Store Company,	Stirrups,	9 75
John P. Lovell Arms Company, .	Police supplies,	2 50
New England Telephone and Telegraph Company,	Telephones,	1 70
A. Shuman & Co.,	Uniforms,	167 55
Standard Oil Company,	Oil,	4 81
Whitman and Couch,	Telephone supplies, . . .	2 07

Middlesex Fells Reservation.

J. M. Ellis,	Stone bounds,	\$40 00
H. A. Emerson & Co.,	Lumber,	35 83
Hawes Brothers,	Team hire and express- ing,	74 07
Hecla Powder Company,	Supplies,	14 28
P. S. Keating,	Hay, etc.,	37 70
John P. Lovell Arms Company, .	Police supplies,	19 37
Andrew L. Machlachlan	Repairs,	6 35
New England Telephone and Telegraph Company,	Telephones,	1 70
A. Shuman & Co.,	Uniforms,	215 55
Standard Oil Company,	Oil,	7 88
Town of Stoneham,	Lighting,	140 40
Union Road Machinery Co., . .	Road plow,	75 00

Revere Beach Reservation.

NAME.	Nature of Claim.	Amount.
Ames Plow Company, . . .	Edson pump, etc., . . .	\$43 12
Ames Plow Company, . . .	Steel scraper and stone boat,	10 25
A. V. Andrews & Co., . . .	Hardware,	27 55
Blackmar & Co.,	Expressing,	6 00
T. H. Buck & Co.,	Lumber,	13 00
Michael Clayton,	Repairs,	3 80
Everett B. Dyer,	Boiler inspection, . . .	2 10
Empire Laundry Machinery Com- pany,	Taking down and re- moving machinery, . .	314 03
Fraser Brothers,	Repairs,	21 85
E. Hodge & Co.,	Smoke flue, etc., . . .	22 69
Robert Josselyn,	Police supplies,	5 00
John P. Lovell Arms Company, .	Police supplies,	6 15
John McDonald,	Horse shoeing,	7 98
John McMahon,	Oil, etc.,	1 75
H. McShane Manufacturing Com- pany,	Engine room supplies, .	5 98
New England Telephone and Telegraph Company, . . .	Telephones,	10 55
Frank R. Patch,	Hardware,	2 22
George F. Proctor & Co. . . .	Coal,	71 25
W. T. Rooney,	Board of horse and team hire,	30 65
A. Shuman & Co.,	Uniforms,	71 96
Standard Oil Company, . . .	Oil,	9 53
Michael Sullivan,	Land expert,	85 00
J. B. Troy,	Photographs,	4 50

Stony Brook Reservation.

H. A. Collins & Co.,	Oatmeal,	\$1 80
Corson Express Company, . . .	Team hire,	4 00
Dodge & Tyler,	Hay, etc.,	26 64
Quincy Dyer,	Hardware,	3 69
Robert Gray,	Repairs to uniforms, . .	4 25
James Mackintosh,	Horse blanket, etc., . .	9 65
J. L. Nason,	Land expert,	50 00
Charles J. Page,	Land expert,	50 00
Hermann L. Pietzsch,	Repairs,	10 00
A. Shuman & Co.,	Uniforms,	41 55

Beaver Brook Reservation.

J. A. & W. Bird & Co.,	Paint,	\$1 40
James Forgie & Son,	Horse blanket,	5 50
C. J. McGinnis,	Hay, etc.,	19 20
A. Storrs & Bement Co., . . .	Stationery,	50
Wheeler Reflector Company, . .	Lanterns,	3 84

Hemlock Gorge Reservation.

NAME.	Nature of Claim.	Amount.
Walter Chesley,	Setting stone bounds, .	\$25 15
A. Shuman & Co.,	Uniforms,	11 50

Charles River Reservation.

Patrick Condon,	Setting stone bounds, .	\$155 50
J. M. Ellis,	Stone bounds,	440 80
Gwynne & Co.,	Team hire,	3 00
Richard J. Hiatt & Co.,	Boat hire,	8 00
Osgood & Hart,	Frames and grates, . .	53 90
E. C. Smith,	Stakes,	1 00
Watertown Water Department, .	Water rates,	15 34
W. W. White & Co.,	Plans,	8 55

Blue Hills Parkway.

Milton police department, . . .	Police,	\$110 00
W. W. White & Co.,	Plans,	5 30

Middlesex Fells Parkway.

Boston Flag Pole Co.,	Spruce poles,	\$40 00
Burditt and Williams,	Tools, etc.,	17 98
George A. Chase,	Inspection,	43 41
Coleman Brothers,	Labor and materials, . .	1,812 11
J. N. Corwin & Co.,	Coal,	1 70
J. M. Ellis,	Stone bounds,	365 50
Hodges and Harrington,	Services,	18 00
Jordan, Marsh & Co.,	Duck,	1 80
W. S. Kaulback,	Stove, etc.,	21 45
George Kendall,	Changing catch-basins, .	27 05
Daniel McDonald,	Edgestone,	1,098 27
City of Malden,	Lighting,	166 66
New England Telephone and Telegraph Company,	Telephones,	23 75
E. C. Smith,	Stakes,	32 00
Somerset Coal Co.,	Coal,	3 50
Union Road Machinery Co., . . .	Snow plow,	62 50
W. W. White & Co.,	Plans,	90

Mystic Valley Parkway.

Hoopes, Bro., & Thomas,	Shrubs,	\$37 10
J. F. McNelly,	Repairs,	3 80
New England Telephone and Telegraph Company,	Telephones,	10
Union Road Machinery Company, .	Road plow,	62 50

Revere Beach Parkway.

NAME.	Nature of Claim.	Amount.
Boston & Maine Railroad,	Tickets,	\$20 00
J. S. Foster,	Loam,	78 84
E. C. Smith,	Stakes,	10 35
W. W. White & Co.,	Plans,	52

Neponset River Parkway.

W. W. White & Co.,	Plans,	\$4 42
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Charles River Speedway.

G. Fuller & Son,	Lumber,	\$17 60
James E. Morse,	Repairs,	8 80
New England Towel Supply Co.,	Towels,	5 00
Parker, Holmes & Co.,	Rubber boots,	15 93
E. C. Smith,	Stakes,	6 00

General Expense.

Allen Brothers,	Rubber stamps,	\$4 51
A. R. Andrews,	Typewriter ribbons, . .	3 00
American Towel Supply Com- pany,	Towels,	5 65
Buff and Berger,	Repairs,	7 50
Burditt and Williams,	Hardware,	10 75
E. T. Burrowes & Co.,	Window screens,	38 50
W. B. Clarke Company,	Stationery,	1 80
Thomas Y. Crowell & Company,	Binding,	3 50
Frost and Adams Company,	Supplies,	268 80
Globe Company,	Bookcase,	20 30
James W. Goldthwait,	Team hire,	22 00
F. B. Graham, assignee,	Plan bins and cases, . .	144 50
Hopkinson & Holden,	Baskets,	4 50
Houghton & Dutton,	Rugs,	5 96
G. D. Howe,	Rent,	216 10
Charles C. Hutchinson,	Repairs,	11 90
Library Bureau,	Stationery,	3 00
Mitchell Manufacturing Com- pany,	Repairs of badges, . . .	1 80
New England Telephone and Telegraph Company,	Telephones,	112 56
New England Towel Supply Company,	Towels,	5 15
Paine Furniture Company,	Clothes poles,	14 00
L. N. Pitcher,	Team hire,	46 50
E. C. Smith,	Stakes,	10 75
Smith Premier Typewriter Com- pany,	Repairs,	2 00
William T. Thorp,	Copying,	30 22
M. R. Warren,	Stationery,	16 00
A. J. Wilkinson & Company,	Hardware,	2 92
Wright & Potter Printing Co.,	Printing,	162 52

Reserve under Contracts.

NAME.	Nature of Claim.	Amount.
Charles River Reservation, . . .	Henry P. Nawn, . . .	\$22,367 69
Charles River Reservation, . . .	Henry P. Nawn & Nathan S. Brock, . . .	1,497 08
Revere Beach Parkway, . . .	John A. Whittemore's Sons, . . .	1,088 64

Land Damages.

Wiggen <i>et al.</i> ,	Land,	\$115 00
E. V. Trask,	"	237 50
Lycena Chaddock,	"	103 50
J. M. Forbes,	"	128 00
James Thoms,	"	1,600 00
A. D. Snow,	"	1,800 00
Horace D. Hall,	"	200 00
Peter Tufts' heirs,	"	250 00
J. C. Lincoln,	"	5,267 50
Hail heirs,	"	200 00
A. D. Weld,	"	1,025 00
F. L. Ames estate,	"	20 00
Daniel Murphy,	"	50 00
Anna Wollitzer,	"	500 00
Soper,	"	800 00
Ellen M. Abbott,	"	60 00
Martha A. Hanscom,	"	300 00
Sarah M. Sanborn,	"	30 10
C. M. Marion,	"	8 00
W. H. Story,	"	8 00
W. C. Ruggles,	"	409 00
John Kahler,	"	7 00
Helen M. Kohler,	"	6 00
P. E. Donahue, Jr.,	"	8 70
M. O'Brien,	"	23 00
F. E. Chandler,	"	256 00
A. S. Lynde,	"	554 20
H. B. Jacobs,	"	5 00
W. B. Whitcomb,	"	135 00
W. J. Enwright,	"	43 00
Elijah Cutter estate,	"	125 00

It is impossible to state the amounts due on the following claims for land damages, the same not being liquidated, still subject to negotiations, and no formal statement of amounts claimed having been made.

George A. Fletcher,
L. V. Bronsdon *et al.*,
Alfred Crossman,
Heirs of Job Faxon,
L. V. Bronsdon,
Aaron D. Weld,
Isaac C. Wyman,
C. A. Scott,
Saco and Biddeford
Savings Institution,
E. C. Dudley,
William Welch,
Daniel Meehan,
Newton Rubber Com-
pany,
J. O. Bullard,
Henry P. Walcott,
J. Arthur Heaton,
C. E. Dearborn,
John E. Cassidy,
Albert Brackett,
George F. Livermore,
Matilda Emerson,
C. A. Read,
J. G. Ross estate,
Sargent estate,
J. H. Conant,
E. M. Chase,
Caroline Conant,
Michael Courtney,
Samuel Walker,
Ætna Mills,
Mary A. Emerson,
Michael Foley,
N. Farwell estate,
J. C. Chaffin,
E. A. Parker,
J. W. Bemis estate,
Harriet E. Freeman,
Dupee and Lord, trus-
tees,
Burton and Wiswall,
Fred G. Simpson *et al.*,
H. Barker & Co.,
Francis Murdock,
Mary Lovely,
Nonantum Worsted
Company,
John Brigham estate,
G. W. Smith,
Laura Seldner,
Dorthea E. Fugelstadt,

Sarah Rich,
Alexander McCul-
lough,
Boston Manufactur-
ing Company,
Heirs Rosanna Mul-
hern,
Bryan Corcoran,
M. Conneaney,
Waltham Co-opera-
tive Bank,
Henry B. Chamber-
lain,
E. P. Wadsworth,
M. M. Upham,
Heirs William J.
Towne,
Sarah A. Dolan,
Fitchburg Railroad
Company,
John Murren,
Charles Kenney,
J. Riley,
Cornelius O'Shaugh-
nessey,
Mary Dolan,
Thomas Walsh,
Newton Street Rail-
way Company,
City of Waltham,
Mary Glynn,
Estate Francis But-
trick,
Heirs A. P. Penniman,
J. M. Sherman,
John Cash,
W. L. Carney,
Lowell Land Com-
pany,
Henry M. Fisher,
Waltham Coal Com-
pany,
Waltham Gas Light
Company,
H. P. Bartlett and E.
M. Illingsworth,
Joseph Peterson,
J. J. S. Peterson,
C. B. Wilson,
Mary A. Gill,
Helen D. Johnson,
L. Noble,

G. L. Burgin,
William H. Wrenn,
J. P. Kuenzal,
Mary E. Warner,
American Waltham
Watch Company,
Heirs of John Logan,
Boat landing,
Mable Odiorne Rolfe,
McClellan & Fifield,
Emroy Braman,
C. S. Fifield estate,
Lucy Stowers,
J. B. Solari,
George S. Lee, trustee,
et al.,
Floyd estate,
C. C. Cain,
Putnam *et al.*,
John McMahon,
Anna J. Derrington,
Dennis Mahoney,
Charles Van Brunt,
Eleanor A. Clarke,
John Curtin,
E. C. Jenney,
D. B. & R. Knight,
Eliza H. Blanchard,
M. Kappler,
H. E. Astley,
Ann Grant,
H. S. Bunton, trustee,
Susan V. George,
E. W. Graves,
Hannah M. Blackman,
Catherine T. Meag-
her,
L. B. Jordon,
Boston & Maine Rail-
road,
N. F. Dwyer,
S. K. Abbott,
M. Davenport,
H. M. Fitzpatrick,
Michael Noon,
J. J. McCarthy,
Adrianna W. Kidder,
John Sheehan,
J. W. Brodbine,
A. C. Norcross,
Lyena Chaddock,
W. H. Powers.

KEY TO LETTERS AND FIGURES ON THE MAP.

METROPOLITAN HOLDINGS.

A. King's Beach.
B. Revere Beach.
C. Revere Beach Parkway.
D. Fellsway.
E. Fellsway East.

F. Fellsway West.
G. Middlesex Fells Reservation.
H. Mystic Valley Parkway.
J. Beaver Brook Reservation.
K. Charles River Reservation.

L. Hemlock Gorge Reservation.
M. Stony Brook Reservation.
N. Neponset River Parkway.
O. Blue Hills Parkway.
P. Blue Hills Reservation.

OPEN SPACES.

CONTROLLED BY—

1. Boston Common . . . Boston Department of Public Grounds.
2. Public Garden . . . Boston Department of Public Grounds.
3. Commonwealth Avenue . . . Boston Park Commission.
4. Charlesbank Boston Park Commission.
5. Back Bay Fens Boston Park Commission.
6. Blackstone Square . . . Boston Department of Public Grounds.
7. Franklin Square . . . Boston Department of Public Grounds.
8. Monument Square . . . Bunker Hill Monument Association.
9. Charlestown Heights . . Boston Park Commission.
10. Charlestown Playground . Boston Park Commission.
11. Wood Island Park . . . Boston Park Commission.
12. Commonwealth Park . . Boston Department of Public Grounds.
13. Telegraph Hill Boston Department of Public Grounds.
14. Independence Square . . Boston Department of Public Grounds.
15. Marine Park Boston Park Commission.
16. Castle Island Boston Park Commission.
17. Rogers Park Boston Department of Public Grounds.
18. Chestnut Hill Reservoir . Metropolitan Water Board.
19. Longwood Playground . . Brookline Park Commission.
20. Brookline Avenue Playground Brookline Park Commission.
21. Cypress Street Playground Brookline Park Commission.
22. Muddy River Parkway . . Boston and Brookline Park Commissions.
23. Old Brookline Reservoir . Boston Water Board.
24. Brookline Reservoir . . . Brookline Water Department.
25. Fisher Hill Reservoir . . Boston Water Board.
26. Madison Square Boston Department of Public Grounds.
27. Orchard Park Boston Department of Public Grounds.

OPEN SPACES.

CONTROLLED BY—

28. Parker Hill Reservoir . . Boston Water Board.
29. Highland Park Boston Department of Public Grounds.
30. Washington Park . . . Boston Department of Public Grounds.
31. Fountain Square . . . Boston Department of Public Grounds.
32. Jamaica Pond Boston Park Commission.
33. Arnold Arboretum . . . Boston Park Commission.
34. Franklin Park Boston Park Commission.
35. Franklin Field Boston Park Commission.
36. Dorchester Park . . . Boston Park Commission.
37. Squaw Rock Boston Sewage Department.
38. Moon Island Boston Sewage Department.
39. Merrymount Park . . . Quincy Park Commission.
40. Faxon Park Quincy Park Commission.
41. Quincy Water Reserve . . Quincy Water Commission.
42. French's Common . . . Braintree Selectmen.
43. Webb Park Weymouth Park Commission.
44. Beals Park Weymouth Park Commission.
45. Hull Common Hull Park Commission.
46. Dedham Common . . . Dedham Selectmen.
47. Boston Parental School . Trustees.
48. Brookline Water Works . Brookline Water Department.
49. Brookline Water Reserve . Brookline Water Department.
50. Brookline Water Reserve . Brookline Water Department.
51. Newton Water Reserve . . Newton Water Board.
52. Needham Common . . . Needham Selectmen.
53. Waban Hill Reservoir . . Newton Water Board.
54. Farlow Park Newton Street Commission.
55. Newton Centre Playground and Green . . . Newton Street Commission.
56. River Park, Weston . . . Weston Park Commission.
57. Auburndale Park . . . Newton Street Commission.

OPEN SPACES.	CONTROLLED BY—	OPEN SPACES.	CONTROLLED BY—
53. River Park, Auburn-dale	Newton Street Commission.	106. Fort Glover	Marblehead Selectmen.
59. Stony Brook Storage Basin	Cambridge Water Board.	107. Prospect Hill	Waltham Department of Public Grounds.
60. Waltham Water Works	Waltham Water Board.	108. Rindge Field	Cambridge Park Commission.
61. Waltham Common . .	Waltham Department of Public Grounds.	109. Winthrop Square . .	Cambridge Park Commission.
62. Saltonstall Park . . .	Watertown Park Commission.	110. Cambridge Field . . .	Cambridge Park Commission.
63. United States Arsenal	National Government.	111. The Front	Cambridge Park Commission.
64. Fresh Pond Park . .	Cambridge Water Board.	112. Charles River Parkway	Cambridge Park Commission.
65. Cambridge Common . .	Cambridge Park Commission.	113. Hastings Square . . .	Cambridge Park Commission.
66. Broadway Park	Cambridge Park Commission.	114. North Brighton Playground	Boston Park Commission.
67. The Esplanade	Cambridge Park Commission.	115. Billings Field	Boston Park Commission.
68. Central Hill Park . . .	Somerville Department of Public Grounds.	116. Milton Playground . .	Milton Selectmen.
69. Broadway Park	Somerville Department of Public Grounds.	117. Milton Hill	Trustees Public Reservations.
70. Nathan Tufts Park . .	Somerville Department of Public Grounds.	118. Neponset Playground .	Boston Park Commission.
71. Mystic Reservoir . . .	Boston Water Board.	119. Christopher Gibson Playground	Boston Park Commission.
72. Mystic Water Works .	Boston Water Board.	120. M Street Playground .	Boston Park Commission.
73. Arlington Heights . . .	Arlington Water Commission.	121. Mystic Playground . .	Boston Park Commission.
74. Arlington Water Reserve	Arlington Water Commission.	122. North End Park . . .	Boston Park Commission.
75. Lexington Common . .	Lexington Selectmen.	123. West Roxbury Parkway	Boston Park Commission.
76. Boston Water Reserve .	Boston Water Board.	124. Watertown Water Works	Watertown Water Board.
77. Winchester Common . .	Winchester Selectmen.	125. Bullough Pond Park .	Newton Street Commission.
78. Woburn Park	Woburn Park Commission.	126. Crystal Lake	Newton Street Commission.
79. Cotumore Lea	Malden Park Commission.	127. Islington Park	Newton Street Commission.
80. Sheridan Park	Malden Park Commission.	128. Wolcott Park	Newton Street Commission.
81. Fellsmere	Malden Park Commission.	129. Lincoln Park	Newton Street Commission.
82. Craddock Field	Malden Park Commission.	130. Linwood Avenue Park	Newton Street Commission.
83. Ferryway Green	Malden Park Commission.	131. Elmwood Park	Newton Street Commission.
84. Playground	Stoneham Selectmen.	132. Washington Park . . .	Newton Street Commission.
85. Wakefield Common . .	Wakefield Selectmen.	133. Cabot Park	Newton Street Commission.
86. Lake Park	Wakefield Selectmen.	134. Boyd's Pond Park . . .	Newton Street Commission.
87. Sewall's Wood	Melrose Park Commission.	135. Walnut Park	Newton Street Commission.
88. Eastern Common	Melrose Park Commission.	136. Kenrick Park	Newton Street Commission.
89. Waitt's Mount	Malden Park Commission.	137. Loring Park	Newton Street Commission.
90. Malden Water Works . .	Malden Water Board.	138. Lower Falls Park . . .	Newton Street Commission.
91. Union Park	Chelsea Park Commission.	139. Hobbs Brook Storage Basin	Cambridge Water Board.
92. United States Marine and Naval Hospital	National Government.	140. Adams Park	Weymouth Park Commission.
93. United States Battery .	National Government.	141. Ward 4 Playground . .	Quincy Park Commission.
94. United States Battery .	National Government.	142. Heath Street Lot . . .	Brookline Park Commission.
95. Lynn Common	Lynn Park Commission.	143. Dudley Street Triangle	Brookline Park Commission.
96. Lynn Woods	Lynn Park Commission.	144. Newton Street Reserve	Brookline Water Department, Street Department and Overseers of Poor.
97. Lynn Water Reserve . .	Lynn Water Board.		
98. Meadow Park	Lynn Park Commission.		
99. Oceanside Terrace . . .	Lynn Park Commission.		
100. Nahant Long Beach . .	Nahant Selectmen.		
101. Nahant Short Beach . .	Nahant Selectmen.		
102. Devereux Beach	Marblehead Selectmen.		
103. Marblehead Park . . .	Marblehead Park Commission.		
104. Crocker Rock	Marblehead Park Commission.		
105. Fort Sewall	Marblehead Selectmen.		

OPEN SPACES.	CONTROLLED BY—
145. Payson Park Reservoir	Cambridge Water Board.
146. Dana Square	Cambridge Park Commission.
147. Fort Washington . .	Cambridge Park Commission.
148. Clifton Grove	Malden Park Commission.
149. Menotomy Rock Park .	Arlington Park Commission.
150. Russell Park	Arlington Park Commission.
151. Meadow Park	Arlington Park Commission.
152. Great Meadows . . .	Arlington Water Commission.
153. Belmont	Belmont Selectmen.
154. How Park	Watertown Park Commission.
155. Whitney Hill Park . .	Watertown Park Commission.
156. Highway Lot	Watertown Highway Department.
157. Irving Park	Watertown Park Commission.
158. Knowles Delta . . .	Watertown Park Commission.
159. Wellesley Water Works	Wellesley Water Board.
160. Maugus Hill Reservoir	Wellesley Water Board.
161. Stone Park Playground	Dedham Park Commission.
162. Hamilton Park . . .	Hyde Park Park Commission.
163. Little Pond Reservation	Braintree Water Board.
164. Stand Pipe	Braintree Water Board.
165. City Park	Everett Park Commission.
166. Brooks Park	Medford Park Commission.
167. Magoun Park	Medford Park Commission.
168. Logan Park	Medford Park Commission.
169. Public Common . . .	Medford Park Commission.
170. Governor Avenue . .	Medford Park Commission.
171. Hastings Park . . .	Medford Park Commission.

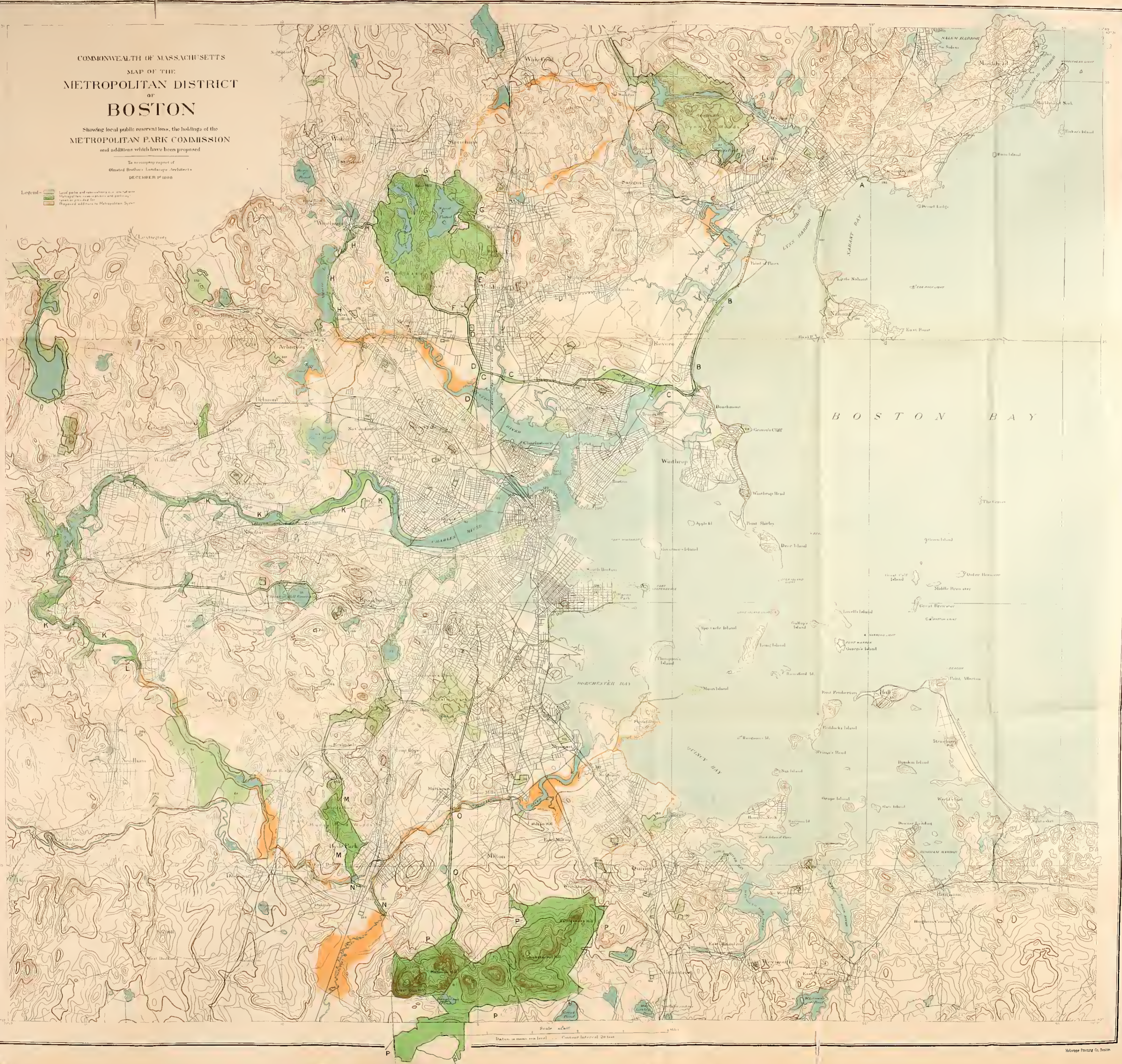
OPEN SPACES.	CONTROLLED BY—
172. Brooks Playstead . .	Medford Park Commission.
173. Prospect Hill Park . .	Somerville Department of Public Grounds.
174. Lincoln Park	Somerville Department of Public Grounds.
175. Playground and High-service Pumping Station	Somerville Department of Public Grounds and Water Board.
176. Everett Avenue Park and Playground .	Chelsea Park Commission.
177. Washington Park . .	Chelsea Park Commission.
178. Powder Horn Park . .	Chelsea Park Commission, Water Board and Soldiers' Home.
179. Willow Street Park .	Chelsea Park Commission.
180. Leased Common . . .	Nahant Selectmen.
181. Dover Common	Dover Park Commission.
182. Water Reservation . .	Needham Water Commission.
183. Ryan's Hill Standpipe .	Needham Water Commission.
184. Highlandville Common	Needham Selectman.
185. Dedham Avenue Triangle	Needham Selectman.
186. Ward 3 Playground . .	Quincy Park Commission.
187. Ward 6 Playground . .	Quincy Park Commission.
188. Sewerage Land	Quincy Sewerage Commission.
189. Reservoir	Metropolitan Water Board.
190. Quincy Standpipe . .	Quincy Water Commission.
191. Pumping Station . . .	Quincy Water Commission.
192. Ward 2 Playground . .	Quincy Park Commission.
193. Blaney's Beach	Swampscott Park Commission.
194. Lyman's Hill Standpipe	Brookline Water Department.

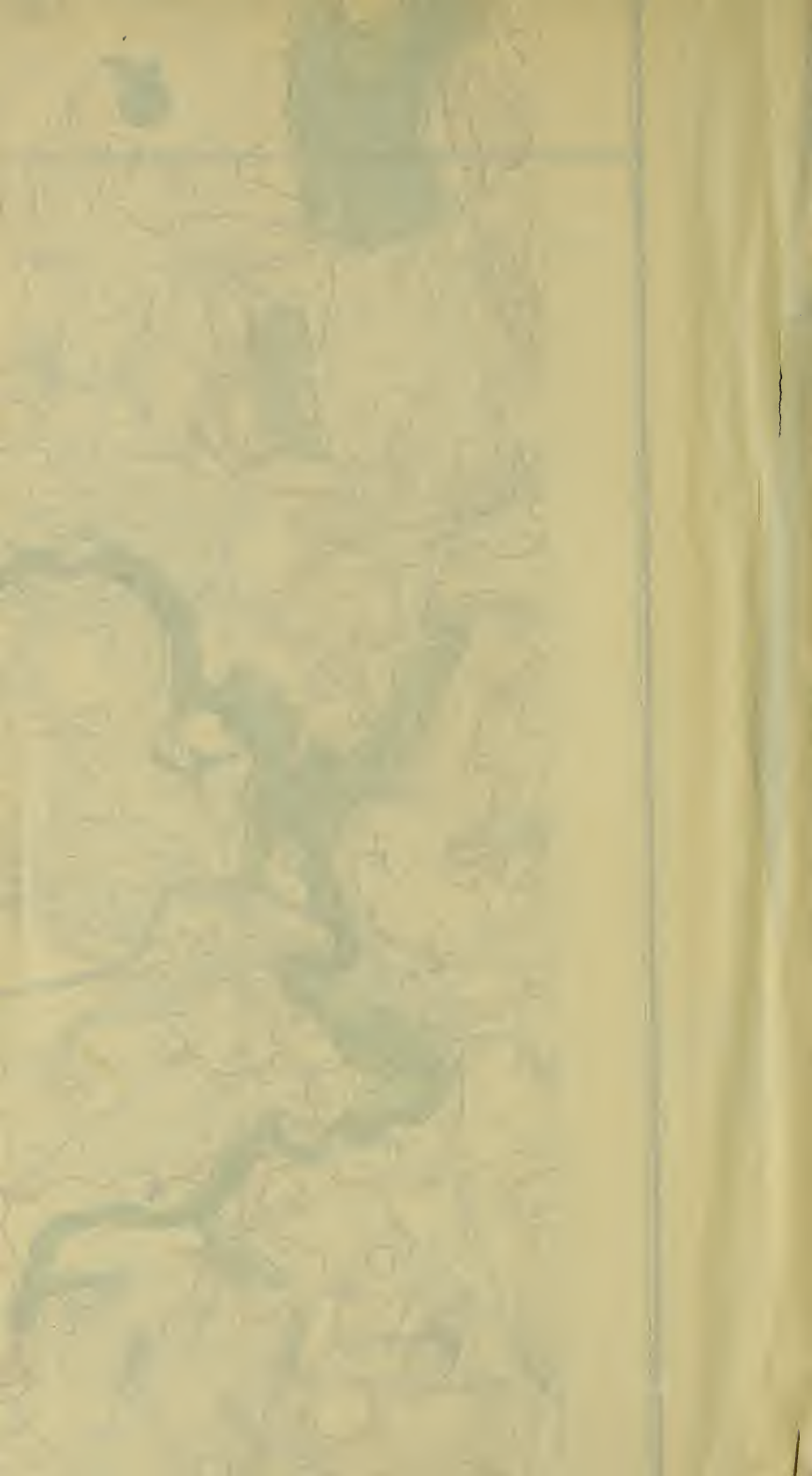
COMMONWEALTH OF MASSACHUSETTS
MAP OF THE
METROPOLITAN DISTRICT
OF
BOSTON

Showing local public reservations, the holdings of the
METROPOLITAN PARK COMMISSION
and additions which have been proposed

To accompany report of
Olmsted Brothers Landscape Architects
DECEMBER 19 1906

Legend—
Local parks and reservations in green
Metropolitan reservations and parkways
in orange
Proposed additions in Metropolitan System







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